GeoVision inc
The Vision of Security

GV-Hot Swap DVR System V5

User's Manual

DVRHV5-UM-A-EN

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GeoVision, Inc.
9F, No. 246, Sec. 1, Neihu Rd.,
Neihu District, Taipei, Taiwan
Tel: +886-2-8797-8377
Fax: +886-2-8797-8335
http://www.geovision.com.tw

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User's Manual for GV-Hot Swap DVR System V5

Welcome to the GV-Hot Swap DVR System V5 User's Manual.

The Manual provides an overview of the GV-Hot Swap DVR System V5 and its accessories. It also includes the instructions to guide you through the installation and use of the GV-Hot Swap DVR System V5:

- **Chapter 1, Introduction**

  Identifies the GV-Hot Swap DVR System V5's accessories and options.

- **Chapter 2, Overview**

  Identifies the GV-Hot Swap DVR System V5's components.

- **Chapter 3, Getting Started**

  Provides step-by-step instructions on setting up the GV-Hot Swap DVR System V5.

- **Chapter 4, DVR Health Analysis**

  Introduces how to collect data to obtain the service of DVR health analysis from GeoVision.

- **Chapter 5, Troubleshooting**

  Suggests courses of action if the GV-Hot Swap DVR System V5 doesn't seem to be working properly.

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Regulatory Notices

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Class A

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

CE Notice

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS Compliance

The Restriction of Hazardous Substances (RoHS) Directive is to forbid the use of hazardous materials of production. To meet the RoHS Directive requirements, this product is made to be RoHS compliant.

WEEE Compliance

This product is subject to the Waste Electrical and Electronic Equipment (WEEE) Directive and made compliant with the WEEE requirements.

Safety Instructions

Observe these safety instructions to help ensure against injury to yourself and damage to the product.

- **Read** all safety and installation instructions before you operate the product.
- **Do not operate** the product in high humidity areas or expose it to water or moisture.
- **Do not put** the product in an unstable, a slanting or vibrated place.
- **Do not block** any ventilation opening.
- **Do not install** the product near any heat sources such as radiator, heat register or other apparatus that produce heat.
- **Operate** the product using only the type of power source indicated on the marking label.
- **Do not defeat** the safety purpose of the grounding-type plug. A grounding plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **Do not overload** wall outlets or extension cords, as this may cause fire or electric shock.
- **Do not use** the product when abnormality occurs, such as emitting smoke from the product, smelling burning, being damaged by drop, invasion of foreign objects inside the product, etc. Be always sure to remove the AC adaptor at once and contact your dealer.
- **Do not use** accessories or attachments not recommended by the manufacturer, as they may cause hazards and void the warranty.
- **Do not attempt** to service the product yourself, as removing the casing may expose you to dangerous voltage and void the warranty.

Chapter 1 Introduction

1.1 Models

The GV-Hot Swap DVR V5 has the following models:

GV-4016H V5	- 16-channel digital video recorder - Records up to 480 (NTSC) / 400 (PAL) fps at the D1 resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-4008H V5	- 8-channel digital video recorder - Records up to 240 (NTSC) / 200 (PAL) fps at the D1 resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-1480H V5	- 16 / 32-channel digital video recorder - Records up to 960 (NTSC) / 800 (PAL) fps at the CIF resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-1240H V5	- 16 / 32-channel digital video recorder - Records up to 480 (NTSC) / 400 (PAL) fps at the CIF resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-1120H V5	- 16 / 32-channel digital video recorder - Records up to 240 (NTSC) / 200 (PAL) fps at the CIF resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-800H V5	- 16 / 32-channel digital video recorder - Records up to 240 (NTSC) / 200 (PAL) fps at the CIF resolution - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-NVRH V5	**NVR (GV)** - 32-channel digital video recorder - Has the option of 20 / 8 / 4 hot-swap SATA drive bays - Extends compatibility to GeoVision IP devices only **NVR** - 32-channel GeoVision IP devices and 1 / 2 / 4 / 6 / 8 / 10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 / 26 / 28 / 30 / 32-channel third-party IP devices digital video recorder - Has the option of 20 / 8 / 4 hot-swap SATA drive bays
GV-Hot Swap Recording Server System	- Receives and records up to 128 IP channels - Distributes up to 300 IP channels - 20 hot-swap SATA drive bays

Note: A dongle is internally inserted in GV-4016H V5, GV-4008H V5, GV-NVRH V5 and GV-Hot Swap Recording Server System.

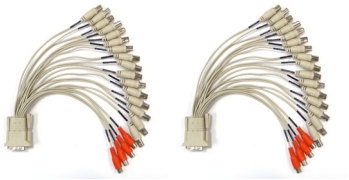
1.2 Packing List

The GV-Hot Swap DVR V5 package includes the following items. If any of the items are missing or damaged, contact your dealer to arrange a replacement.

Important: Please keep the original carton and all packing materials for future shipping need.

1.2.1 GV-Hot Swap DVR System V5

1. GV-Hot Swap DVR System V5 x 1
2. Video and Audio Cable

GV-4016H V5 (20-Bay)	**GV-4008H V5 (20-Bay)**
• DVI-Type Video Cable x 2 • DVI-Type Audio Cable x 2	• DVI-Type Video Cable x 1 • DVI-Type Audio Cable x 1
GV-4016H V5 (8 / 4-Bay)	**GV-4008H V5 (8 / 4-Bay)**
• DVI-Type Audio Cable x 2	• DVI-Type Audio Cable x 1
GV-800H V5 (32 Ch)	**GV-800H V5 (16 Ch)**
• DVI Audio and Video Cable x 2 	• DVI Audio and Video Cable x 1

<table>
<tr><th>GV-1480H / 1240H / 1120H V5
(20 / 8 / 4-Bay, 32 Ch)</th><th>GV-1480H / 1240H / 1120H V5 (20-Bay, 16 Ch)</th></tr>
<tr><td>• D-Type Video Cable x 4

• D-Type Audio Cable x 4
 </td><td>• D-Type Video Cable x 2

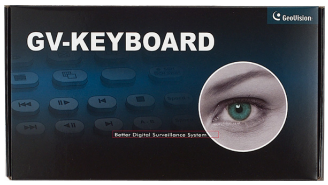
• D-Type Audio Cable x 2
 </td></tr>
<tr><td></td><td>GV-1480H / 1240H / 1120H V5 (8 / 4-Bay, 16 Ch)</td></tr>
<tr><td></td><td>• D-Type Audio Cable x 2
 </td></tr>
</table>

3. AC Power Cord x 1

4. RJ-11 to USB Cable x 1

   ＊ Not available for GV-800H V5 and GV-1480H / 1240H / 1120H V5 models

5. GV-Keyboard Package x1



6. GV-IR Remote Control x 1

7. GV-IR Remote Control Receiver x 1

＊ Not available for all 20-bay models

8. Key for hard disk safety lock x 1

＊ Not available for all 20-bay models

9. Self-Stick Rubber Pad x 4
10. Recovery DVD x 1
11. Nero CD Burning Software x 1
12. Surveillance System Software DVD x 1
13. GV-Hot Swap DVR System V5 User's Manual x 1
14. GV-Hot Swap DVR System V5 Quick Start Guide x 1

1.2.2 GV-Hot Swap Recording Server System

1. GV-Hot Swap Recording Server System x 1
2. AC Power Cord x 1
3. Recovery DVD x 1
4. Nero Burning Software x 1
5. Self-Stick Rubber Pad x 4
6. GV-Hot Swap Recording Server System Quick Start Guide x 1
7. GV-Hot Swap DVR System V5 User's Manual x 1

1.3 Options

Optional devices can expand your GV-Hot Swap DVR V5's capabilities and versatility. Contact your dealer for more information.

GV-Video Loop Through Card	This card can take the video signal from the GV-Hot Swap DVR V5 and then split it into 16 signals while maintaining video quality. It can meet the need for multiple spot monitors. ** This device is not available for GV-NVRH V5, GV-800H V5, 20-bay GV-1480H / 1240H / 1120H V5 (32 ch) and all 8-bay models.
GV-IO 12-In Card	With 12-point digital inputs, this card can expand the GV-Hot Swap DVR V5 up to 16 sensor inputs. ** This device is not available for 20-bay GV-1480H / 1240H / 1120H V5 (32 ch) and all 8-bay models.
GV-IO 12-Out Card	With 12-point relay outputs, this card can expand the GV-Hot Swap DVR V5 up to 16 alarm outputs. ** This device is not available for 20-bay GV-1480H / 1240H / 1120H V5 (32 ch) and all 8-bay models.
GV-Multi Quad Card	With this card, the GV-Hot Swap DVR V5 can connect up to 5 TV screens. The screen divisions on the TV screens are definable. ** This device is not available for GV-NVRH V5, GV-800H V5, 20-bay GV-1480H / 1240H / 1120H V5 (32 ch) and all 8-bay models.
GV-I/O USB Box	GV-I/O USB Box provides 16 inputs and 16 relay outputs, and up to 9 GV-I/O USB Boxes can chain together to expand the use. However, 16 inputs are only supported when it is used with GV-System version 8.2 or later.
GV-Data Capture V3 Box	GV-Data Capture V3 Box can integrate the GV-Hot Swap DVR V5 to an electronic POS system, while GV-Data Capture V3E Box can establish such integration through LAN or Internet.
GV-Hub	An easy way for serial port extension. This hub can add 4 RS-232/RS-485 serial ports through the GV-Hot Swap DVR V5's USB port.
GV-COM	This unit can add 1 RS-232/RS-485 serial port through the GV-Hot Swap DVR V5's USB port.
GV-IO Box (4 Ports)	GV-IO Box 4 provides 4 inputs and 4 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.

GV-IO Box (8 Ports)	GV-IO Box 8 provides 8 inputs and 8 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-IO Box (16 Ports)	GV-IO Box 16 provides 16 inputs and 16 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-Joystick	GV-Joystick facilitates the PTZ camera control. It can be either plugged into the GV-Hot Swap DVR V5 for independent use or connected to GV-Keyboard to empower the operation. However, this device can only work on GV-System version 8.2 or later.
RAID Controller (0 / 1 / 5 / 6)	The RAID Controller supports a maximum of 8 SATA hard drives and enhances data protection. The supported RAID types include RAID 0, RAID 1, RAID 5 and RAID 6. This card is only available in the 8 / 4-bay models of GV-Hot Swap DVR V5.
AVP Dongle	Internally inserted to the GV-Hot Swap DVR V5, the AVP Dongle provides the functions of advanced video analysis in GV-System: Panorama View, Video Stabilizer, Defogging, Crowd Detection, Advanced Scene Change, Advanced Missing Object and Advanced Unattended Object.

Note:

1. GV-Video Loop Through Card and GV-Multi Quad Card cannot be connected at the same time. You can only connect one device out of GV-Video Loop Through Card, GV-IO 12-In/Out Card, and GV-Multi Quad Card for the following models: 20-bay GV-1480H / 1240H / 1120H V5 (16 ch), 4-bay GV-1480H / 1240H / 1120H V5 (32 ch) and 20-bay GV-4016H V5.
2. Optional devices are not available for GV-Hot Swap Recording Server System.
3. The purchased GV-series cards will be added on the GV-Hot Swap DVR V5 before shipment.

Chapter 2 Overview

2.1 Front View

2.1.1 20-Bay Models

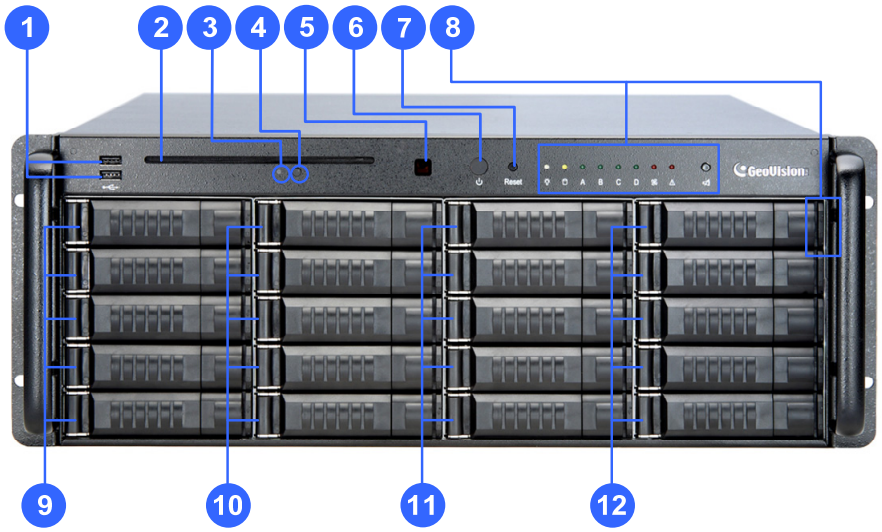


Figure 2-1

No.	Name	No.	Name
1	USB Port x 2	7	Reset Button
2	DVD(±) RW Drive	8	LED Panel (See *2.2 LED Panel View* for details.)
3	DVD(±) RW Drive Activity LED	9	HDD Group A
4	DVD-eject button	10	HDD Group B
5	Built-in GV-IR Remote Control Receiver	11	HDD Group C
6	Power Button	12	HDD Group D

2.1.2 8-Bay Models

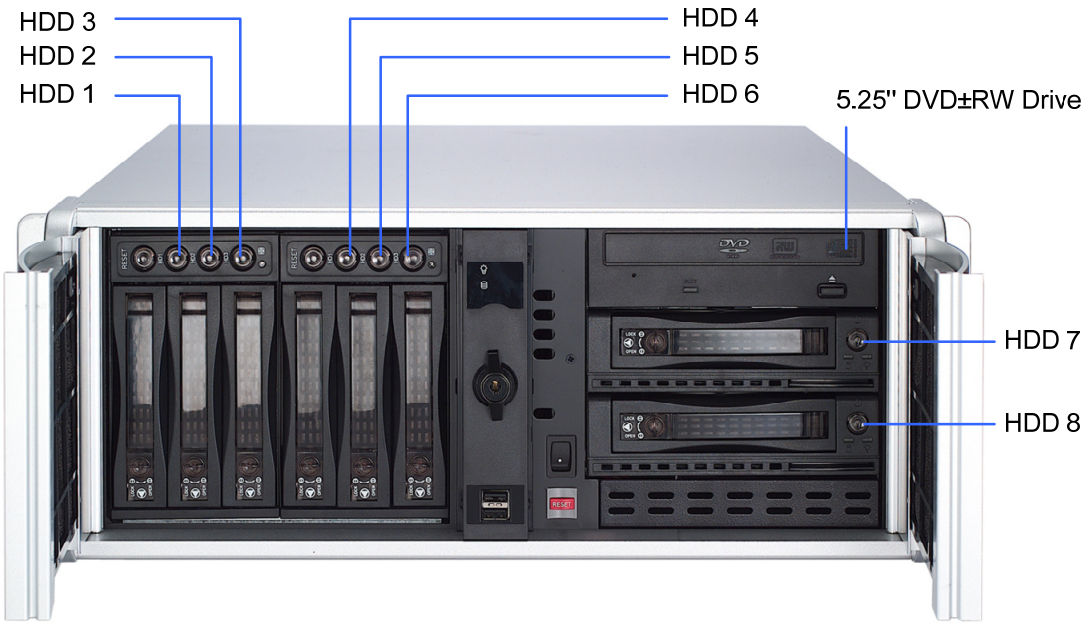


Figure 2-2

For details on the other features of the front panel, see Figure 2-1.

2.1.3 4-Bay Models

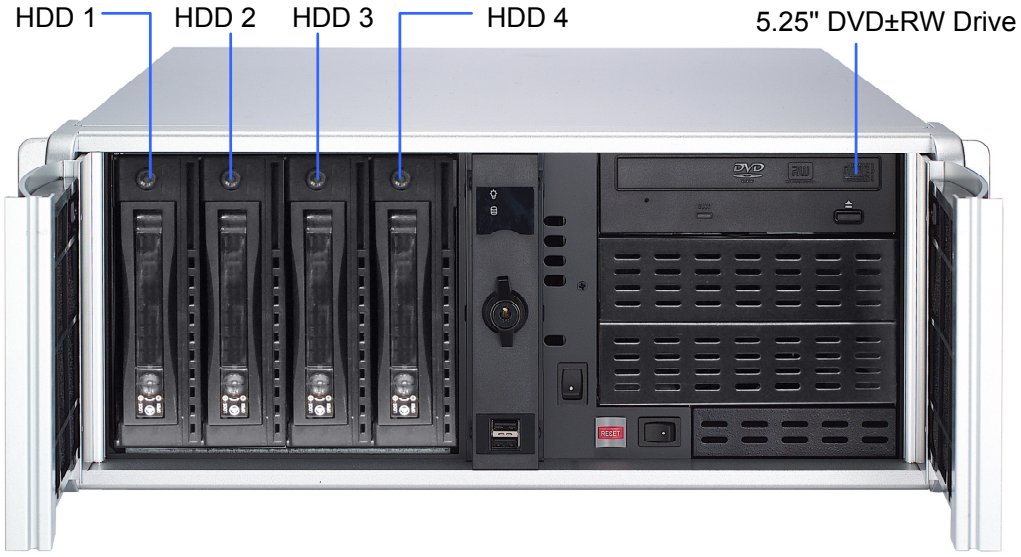


Figure 2-3

For details on the other features of the front panel, see Figure 2-1.

2.2 LED Panel View

A LED panel on the front door provides a quick indication of the activity status of hard disk drives. Note the panel design and function vary from model to model.

2.2.1 20-Bay Models

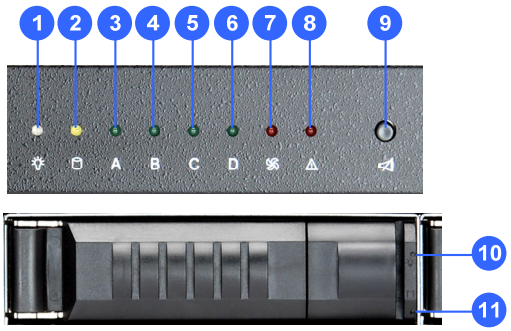


Figure 2-4

No.	LED	Description
1	Power LED	The LED shines when the power is on.
2	HDD Activity LED	The LED shines when the HDDs are writing or reading data.
3	HDD Group A LED	The LEDs of HDD Group A to D shine when the power is on.
4	HDD Group B LED	
5	HDD Group C LED	
6	HDD Group D LED	
7	System Alert LED	The LED shines and the system sounds on if one fan stops or the GV-Hot Swap DVR V5 is overheated.
8	Alert LED	(reserved)
9	Alarm Mute Button	Press this button to silence the alarm when the System Alert LED shines and the system sounds.
10	HDD Power LED (White)	The LED shines white after the HDD is installed.
11	HDD Activity LED (Blue)	The LED shines blue if the HDD is reading or writing data.

Note: The HDD Activity LED (No.11) only shines if the installed HDD is SATA II.

2.2.2 8 / 4-Bay Models

Figure 2-5

LED Color	Description
Gray	- No HDD is assigned to this LED. - GV-System is not started.
Green	A HDD is assigned to this LED.
Red	The HDD is full.
Flashing Green	GV-System is recording.
Flashing Red	The HDD is recycling.
Flashing Green and Red	The operating system or GV-System freezes.

Note: When the GV-System or Hot Swap HDD Tool is closed, the LEDs will not change their colors even if the status of HDDs change.

2.3 Rear View

2.3.1 20-Bay Models

2.3.1.1 GV-4016H V5 / GV-4008H V5

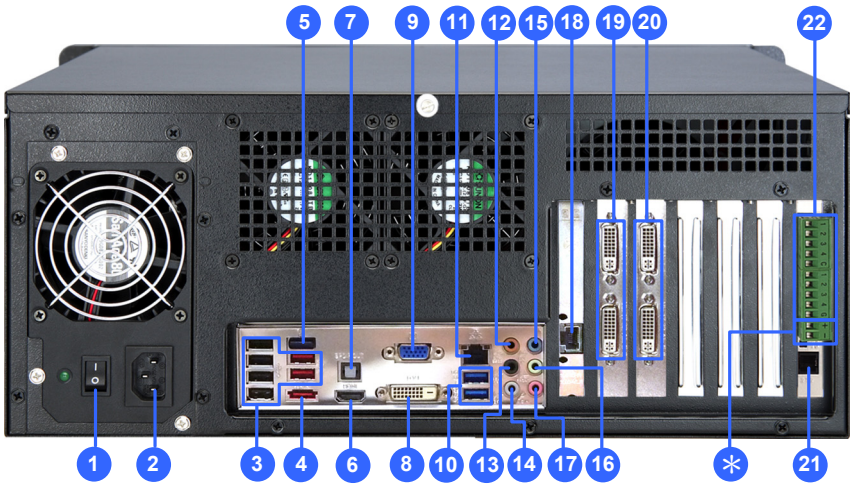


Figure 2-6

No.	Name	No.	Name
1	AC Power Switch	13	Rear R/L Port
2	AC Power Input (Full Range)	14	Side R/L Port
3	USB 2.0 Port x 6	15	Audio Line In Port
4	eSATA	16	Audio Line Out Port
5	Bluetooth Port	17	Audio Microphone In Port
6	HDMI Port	18	Ethernet Port
7	S/PDIF Port	19	DVI-Type Video 1-8, DVI-Type Audio 1-8
8	DVI-DL Output	20	DVI-Type Video 9-16, DVI-Type Audio 9-16＊＊
9	VGA Monitor Output	21	RJ-11 Port
10	USB 3.0 Port x 2	22	I/O Terminal Block
11	Ethernet Port	＊	Not functional
12	Center / Subwoofer Port		

Note:

1. The features marked with ＊＊ are only available on the GV-4016H V5 model.
2. To connect two monitors, use ports No.6, No. 8 or No. 9. Note the DVI-D output (No. 8) only supports the digital signal, and it can be only connected to a monitor with a DVI connector.

2.3.1.2 GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (32 Channels)

Figure 2-7

No.	Name	No.	Name
1	Ethernet Port	8	D-Type Audio 1-8
2	RCA TV Output 1-16	9	D-Type Audio 9-16
3	D-Type Video 1-8	10	D-Type Audio 17-24
4	D-Type Video 9-16	11	D-Type Audio 25-32
5	RCA TV Output 17-32	12	I/O and RS-485±Terminal Block
6	D-Type Video 17-24	13	RJ-11 Port
7	D-Type Video 25-32		

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-6.

2.3.1.3 GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (16 Channels)

Figure 2-8

No.	Name	No.	Name
1	Ethernet Port	5	D-Type Audio 1-8
2	RCA TV Output 1-16	6	D-Type Audio 9-16
3	D-Type Video 1-8	7	I/O and RS-485±Terminal Block
4	D-Type Video 9-16	8	RJ-11 Port

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-6.

2.3.1.4 GV-800H V5 (32 and 16 channels)

Figure 2-9

No.	Name	No.	Name
1	Ethernet Port	4	I/O and RS-485±Terminal Block
2	DVI Video 1-16 and Audio 1-4	5	RJ-11 Port
3	DVI Video 17-32 and Audio 17-20 ＊		

Note: The features marked with ＊ are only available on 32-channel GV-800H V5.

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-6.

2.3.1.5 GV-NVRH V5

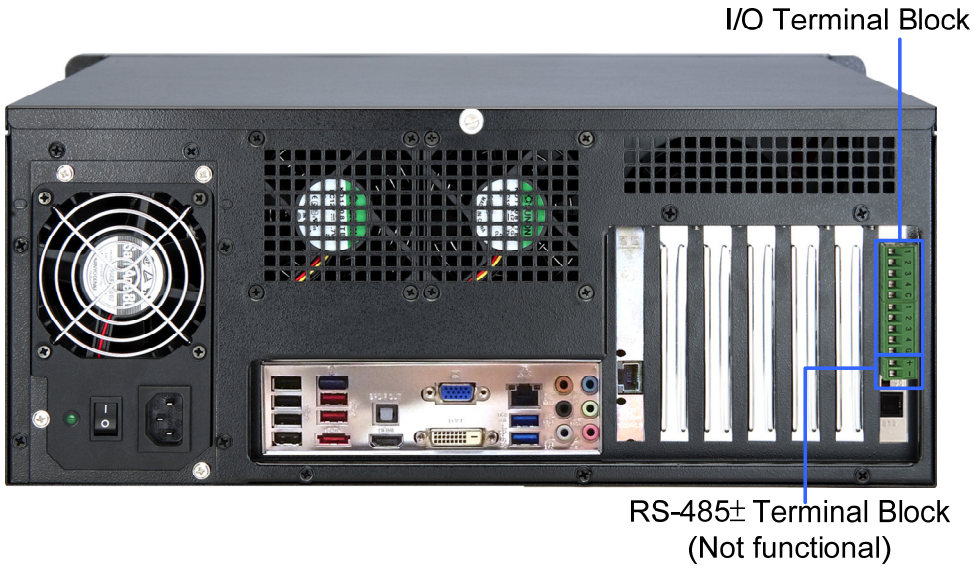


Figure 2-10

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-6.

2.3.1.6 GV-Hot Swap Recording Server System

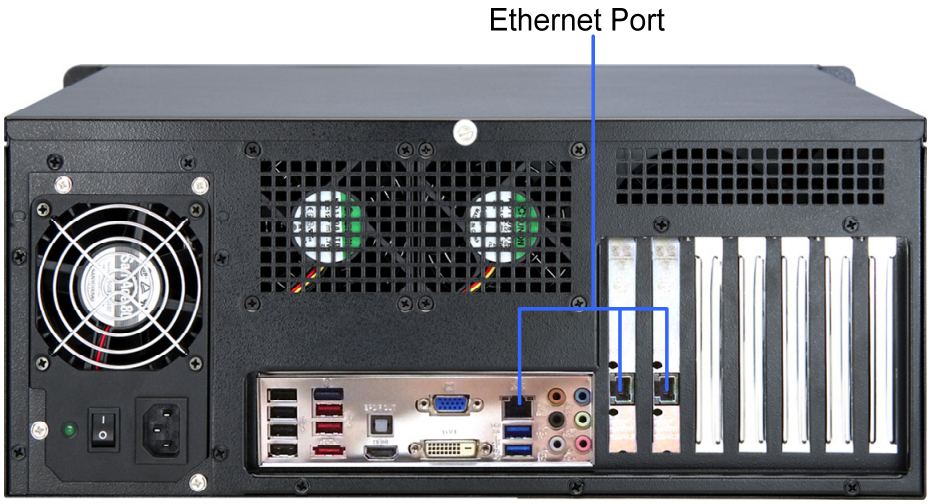


Figure 2-11

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-6.

2.3.2 8 / 4-Bay Models

2.3.2.1 GV-4016H V5 / GV-4008H V5

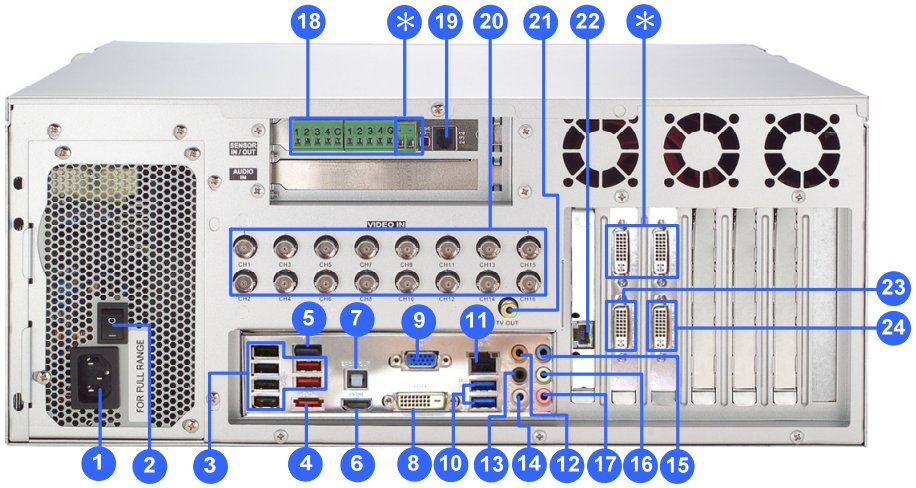


Figure 2-12

No.	Name	No.	Name
1	AC Power Switch	14	Side R/L Port
2	AC Power Input (Full Range)	15	Audio Line In Port
3	USB 2.0 Port x 6	16	Audio Line Out Port
4	eSATA	17	Audio Microphone In Port
5	Bluetooth Port	18	I/O Terminal Block
6	HDMI Port	19	RJ-11 Port
7	S/PDIF Port	20	BNC Video Connector x 16
8	DVI-DL Output (DVI-D Signal Only)	21	RCA TV Output
9	VGA Monitor Output	22	Ethernet Port
10	USB 3.0 Port x 2	23	DVI-Type Audio 1-8
11	Ethernet Port	24	DVI-Type Audio 9-16 ＊＊
12	Center / Subwoofer Port	＊	Not functional
13	Rear R/L Port		

Note:

1. To connect two monitors, use ports No.6, No. 8 or No. 9. Note the DVI-D output (No. 8) only supports the digital signal, and it can be only connected to a monitor with a DVI connector.
2. The features marked with ＊＊ are only available on GV-4016H V5.

2.3.2.2 GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (32 Channels)

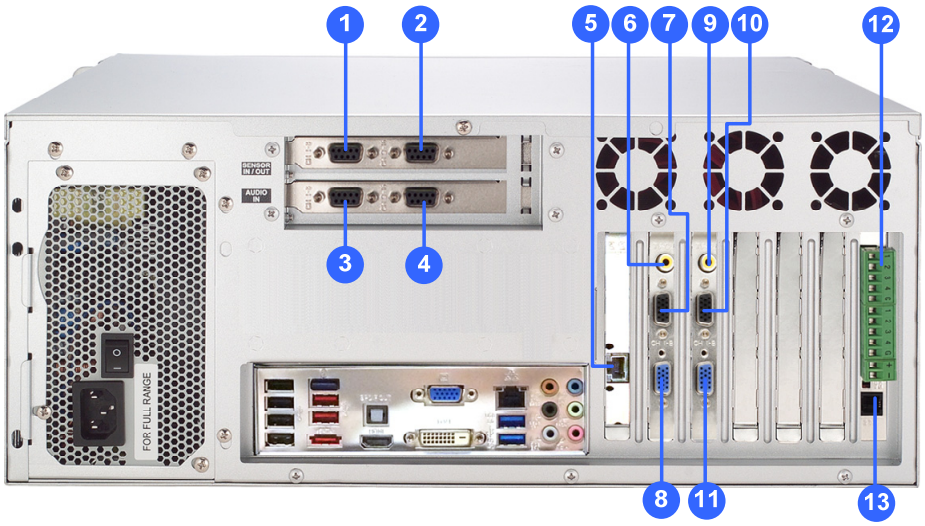


Figure 2-13

No.	Name	No.	Name
1	D-Type Audio 1-8	8	D-Type Video 9-16
2	D-Type Audio 9-16	9	RCA TV Output 17-32
3	D-Type Audio 17-24	10	D-Type Video 17-24
4	D-Type Audio 25-32	11	D-Type Video 25-32
5	Ethernet Port	12	I/O and RS-485±Terminal Block
6	RCA TV Output 1-16	13	RJ-11 Port
7	D-Type Video 1-8		

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-12.

2.3.2.3 GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (16 Channels)

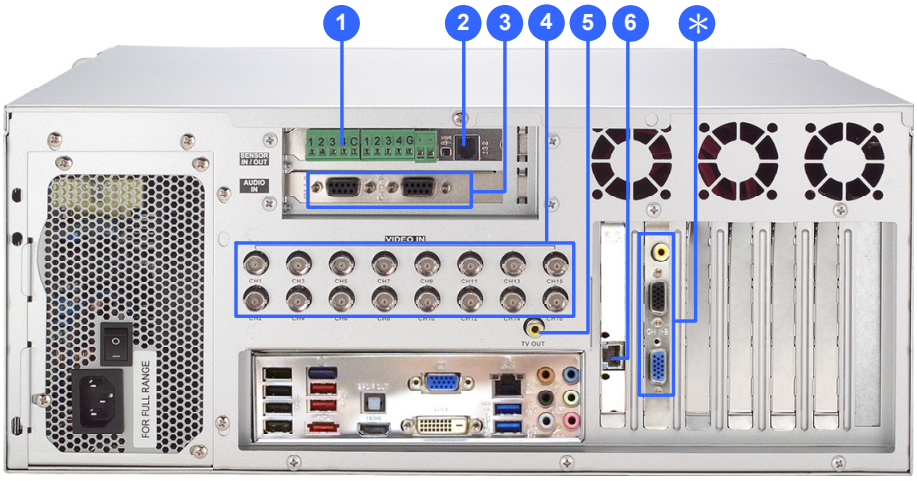


Figure 2-14

No.	Name	No.	Name
1	I/O and RS-485±Terminal Block	5	RCA TV Output
2	RJ-11 Port	6	Ethernet Port
3	D-Type Audio 1-16	*	Not functional
4	BNC Video Connector x 16		

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-12.

2.3.2.4 GV-800H V5 (32 and 16 channels)

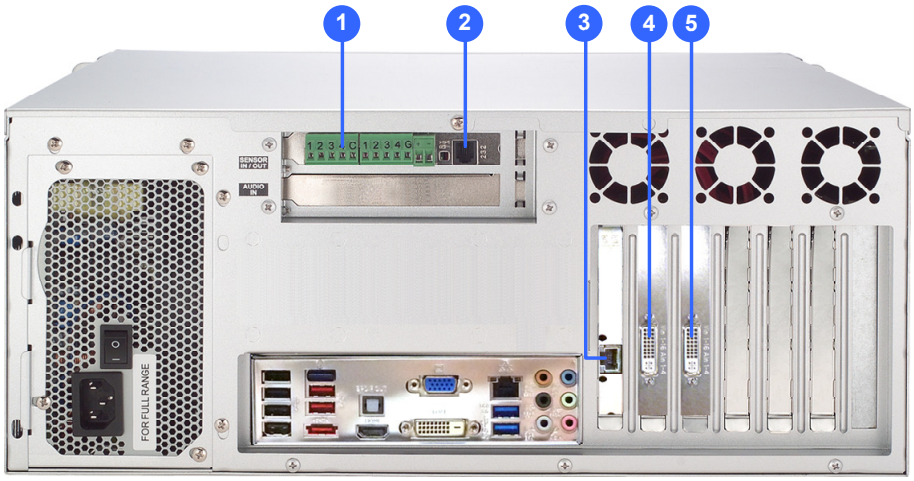


Figure 2-15

No.	Name	No.	Name
1	I/O and RS-485±Terminal Block	4	DVI-Type Video 1-16 and Audio 1-4
2	RJ-11 Port	5	DVI-Type Video 17-32 and Audio 17-20 ＊
3	Ethernet Port		

Note: The features marked with ＊ are only available on 32-channel GV-800H V5.

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-12.

2.3.2.5 GV-NVRH V5

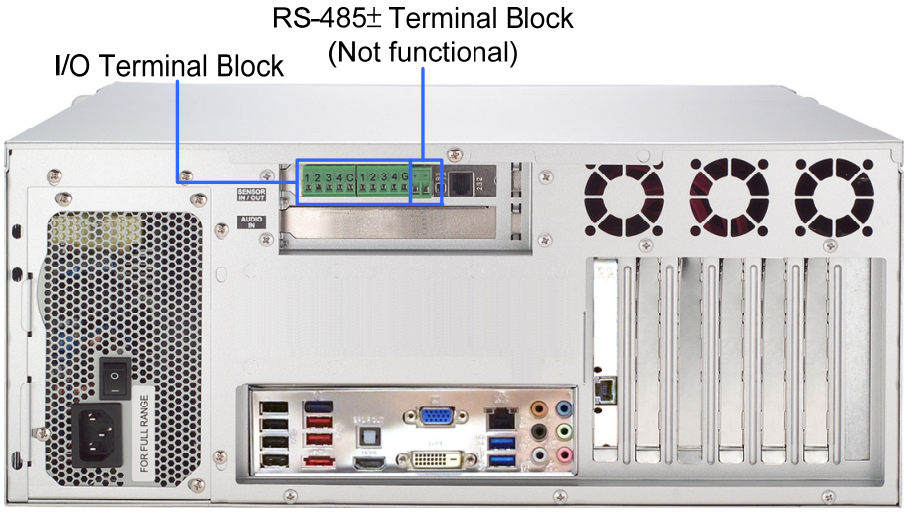


Figure 2-16

For details on the other features of the motherboard and power supply on the rear panel, see Figure 2-12.

Chapter 3 Getting Started

3.1 Basic Installation

This section describes all the equipments required to program and operate the GV-Hot Swap DVR V5. Up to 2 monitors can be connected to the GV-Hot Swap DVR V5. Here we use the 8 / 4-bay model (16 channels) as the example.

GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (16 Channels)

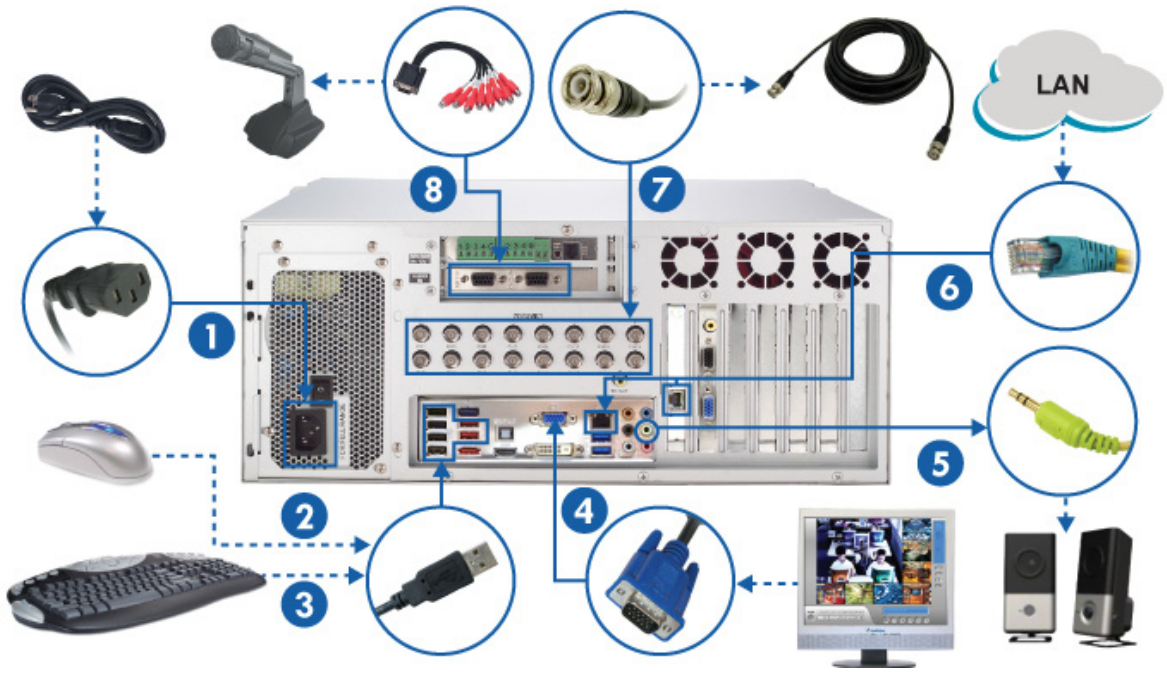


Figure 3-1

1. Using the supplied power cord, connect one end to the AC input and the other end to the power outlet.
2. Connect the mouse to the USB port.
3. Connect the keyboard to the USB port.
4. Using the VGA cable supplied by the monitor manufacturer, connect the VGA monitor.
5. To listen to audio of video source, connect speakers to the Audio Line Out port.
6. Using the RJ-45 cable, connect one end to the Ethernet port and the other end to Network.
7. Using the BNC video cables, connect one end to the BNC video connectors and the other end to video sources.
8. Using the supplied D-type audio cables, connect one end to the audio ports and the other end to audio sources.

Note: The monitor you use must be capable of having a screen resolution of 1280 x 1024 and display color of 32 bits.

3.1.1 Connecting to 2 Monitors

To connect to 2 monitors, connect the monitors to 2 of the 3 ports labeled below on the back panel of the GV-Hot Swap DVR V5.

GV-1480H V5 / GV-1240H V5 / GV-1120H V5 (16 Channels)

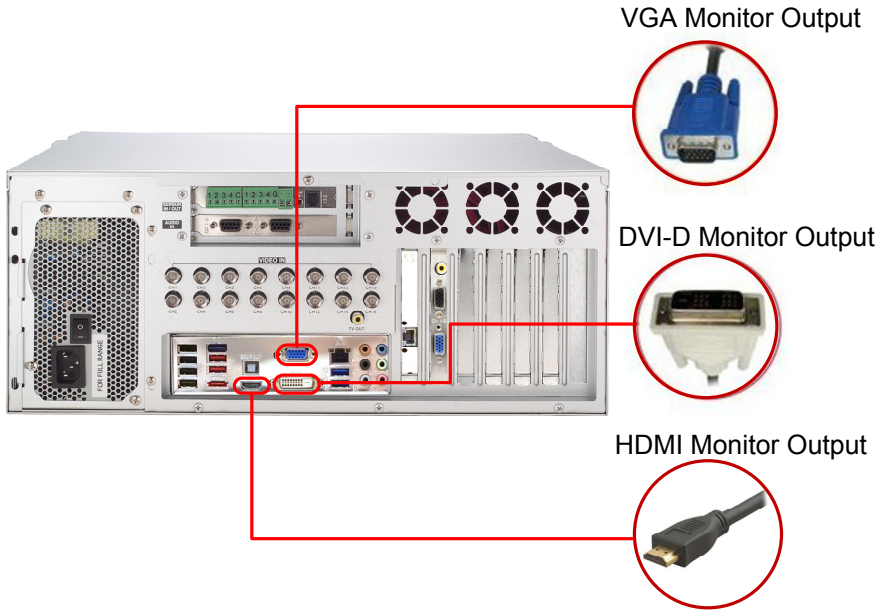


Figure 3-2

To install other required equipment, follow the steps in *3.1 Basic Installation*.

3.2 Turning on the Power

Once the above hardware is properly connected, it is the time to turn on the GV-Hot Swap DVR V5. To turn on the power, follow these steps:

1. Turn on the monitor.

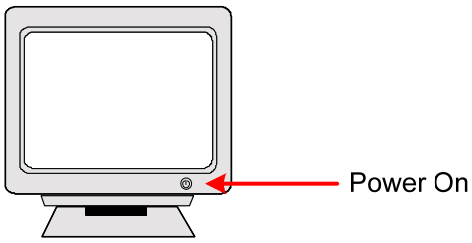


Figure 3-3

2. Turn on the AC power switch on the rear panel.

20-Bay Models

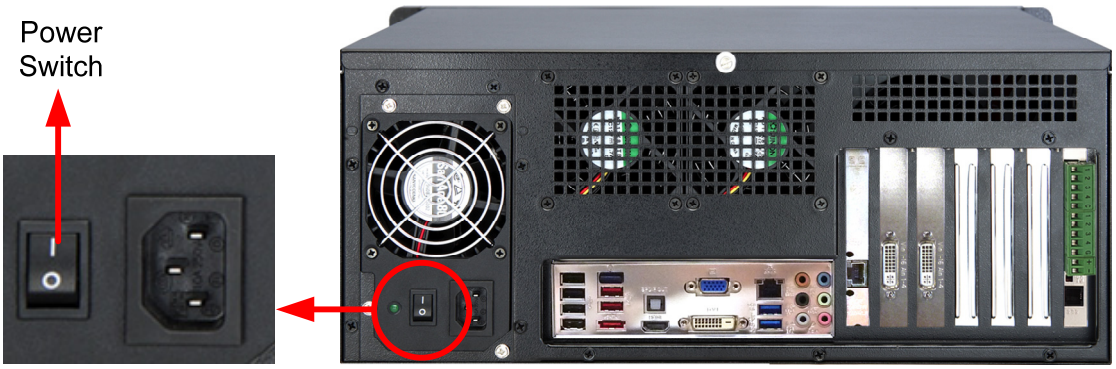


Figure 3-4

8 / 4-Bay Models

Figure 3-5

3. Turn on the main power switch on the front panel.

20-Bay Models

Figure 3-6

8 / 4-Bay Models

Figure 3-7

The GV-Hot Swap DVR V5 will run a series of self-tests, and later series of messages may be displayed as the various hardware and software subsystems are activated. After this is finished, the GV-System Software (Multicam Surveillance System) should load automatically and bring you to the main screen display of 8, 16 or 32 cameras.

Note:

1. For 20-bay models, the series of self-tests will take around 20 seconds to 2 minutes, depending on the number of installed hard drives.
2. For 20-bay models, the Power LED and the LEDs of HDD Group A to HDD Group D should shine after power is on. If any of HDD Group LEDs does not shine, please contact GeoVision.

3.3 Installing the Hard Drive

The GV-Hot Swap DVR V5 uses SATA hard drives for video and audio data storage. Before recording, ensure to install your hard drives. Steps to install the hard drive vary from models to models. Be sure to identify your model and follow the right steps to install the hard drive.

3.3.1 20-Bay Models

1. Make sure the HDD Activity LED (No. 2, Figure 2-4) is off before you install the hard drive.
2. Slide the release latch to the right. The drawer handle pops up.

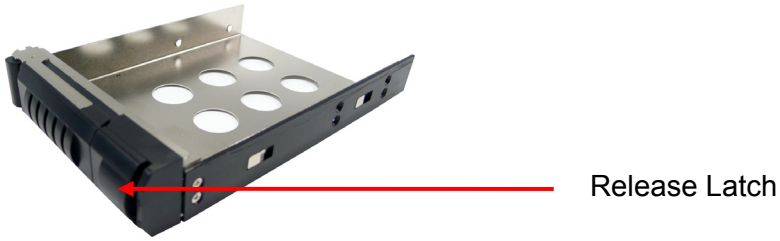


Figure 3-8

3. Pull out the drive drawer.
4. Insert the hard drive in the drawer.

Figure 3-9

5. Secure the hard drive with the 4 screws (included in the drawer), and make sure all screw heads flush with the surface.

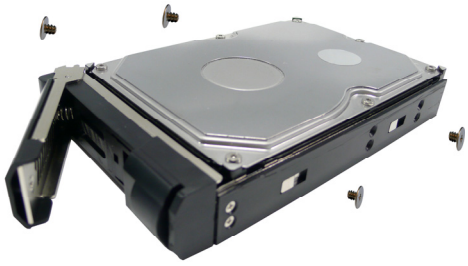


Figure 3-10

6. Put the drawer back in the drive bay of the GV-Hot Swap DVR V5, and push the latch until it locks. The white LED on the drawer shines, and the hard drive is now ready to use.

3.3.2 8 / 4-Bay Models

1. Turn off the power of the drive bay. Make sure the Power LED is off.
2. Turn the safety lock to the OPEN position.
3. Push the safety lock. The drawer handle pops up.
4. Pull out the drive drawer.

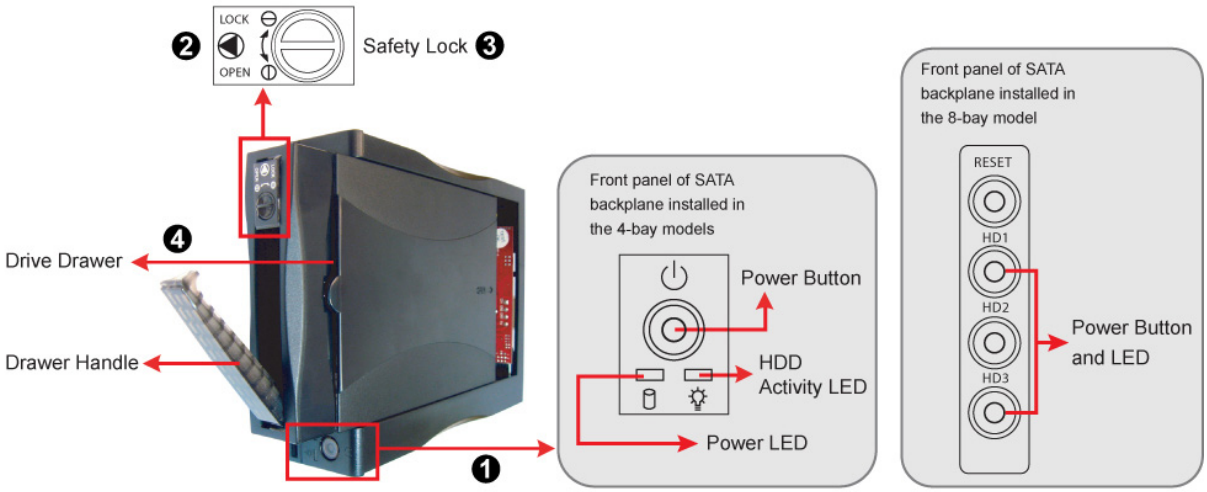


Figure 3-11

5. Remove the lid of the drawer.

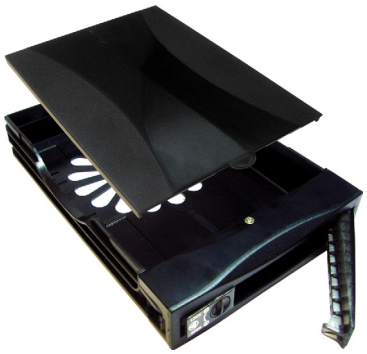


Figure 3-12

5. Insert the hard drive in the drawer, and slide the lid back on.

Figure 3-13

6. Turn over the drawer, and secure the hard drive with the 4 screws (included in the drawer).

Figure 3-14

7. Put the drawer back in the drive bay of the GV-Hot Swap DVR V5.
8. Push the drawer handle back, and turn the safety lock to the LOCK position.
9. Press the Power button. When the Power LED indicates green, the hard drive is ready to use.

3.4 Formatting the Hard Drive

After installing hard drives to your GV-Hot Swap DVR V5, you may need to format them before use.

1. On the GV-Desktop, click the **Programs** button, and select **Disk Management**.

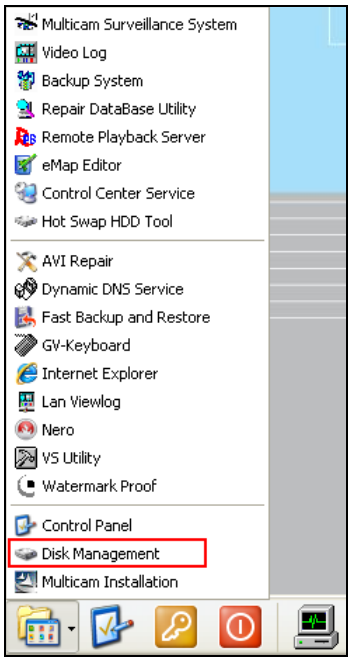


Figure 3-15

2. Type the ID and password in the dialog box. The default ID and password are "**0000**".

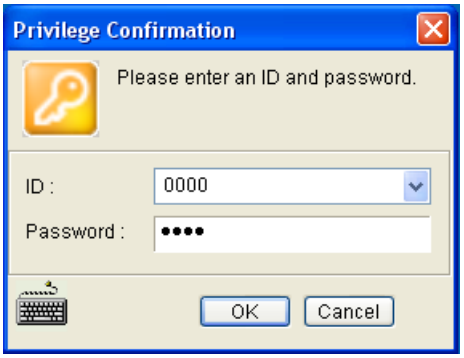


Figure 3-16

3. Right-click in the unallocated space of a new drive, and select **New Simple Volume**.

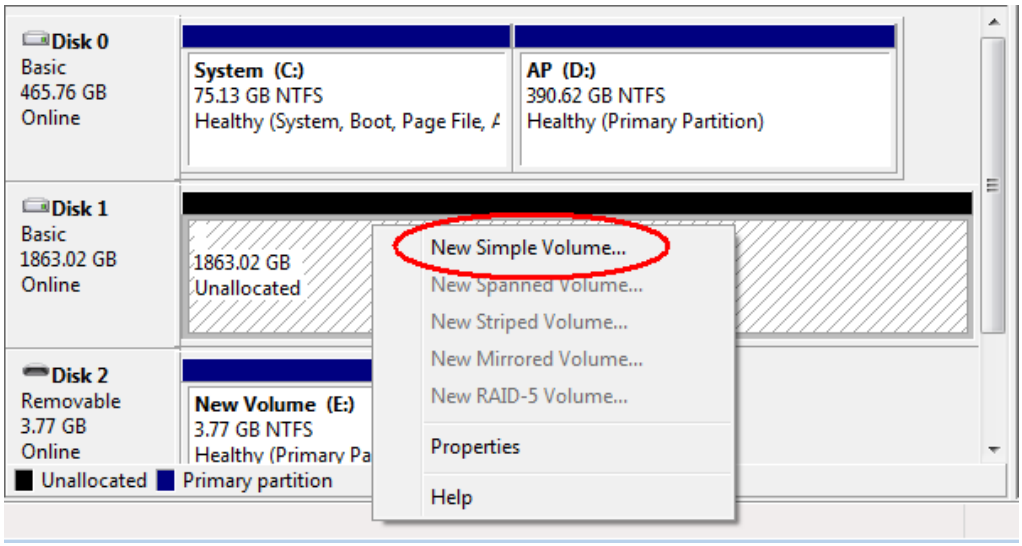


Figure 3-17

4. The New Simple Volume Wizard appears. Click **Next** to continue.

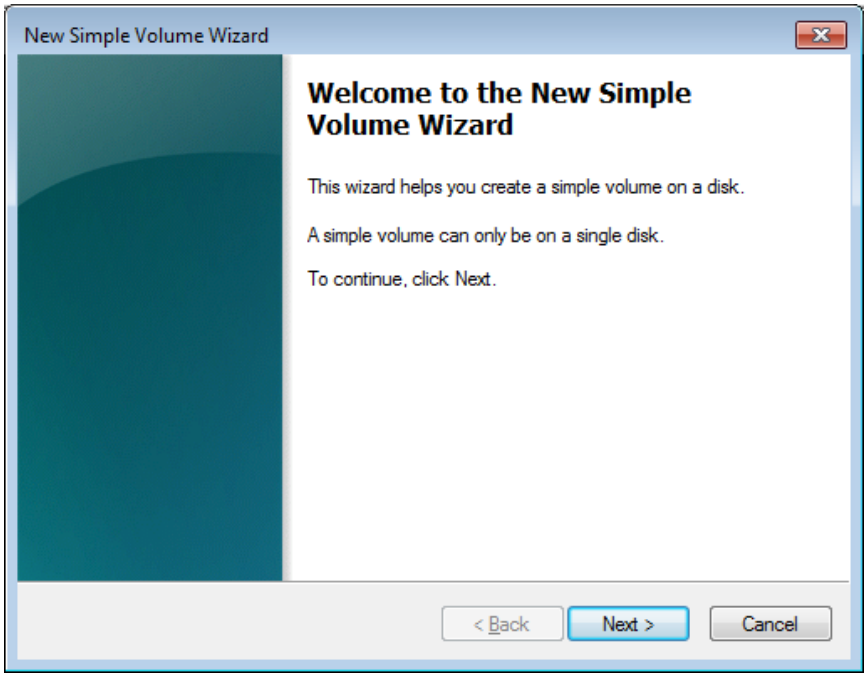

New Simple Volume Wizard
Welcome to the New Simple Volume Wizard
This wizard helps you create a simple volume on a disk.
A simple volume can only be on a single disk.
To continue, click Next.
< Back
Next >
Cancel

Figure 3-18

5. The default partition size is the same as the maximum disk space. Make changes if necessary. Click **Next** to continue.

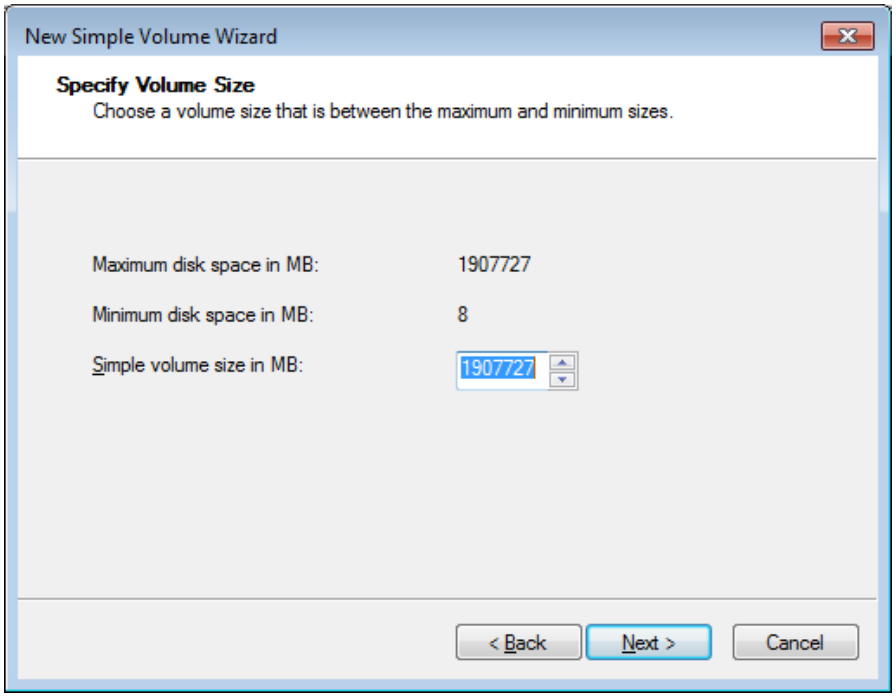


Figure 3-19

6. Assign a drive path that is not in use by other devices, and click **Next** to continue.

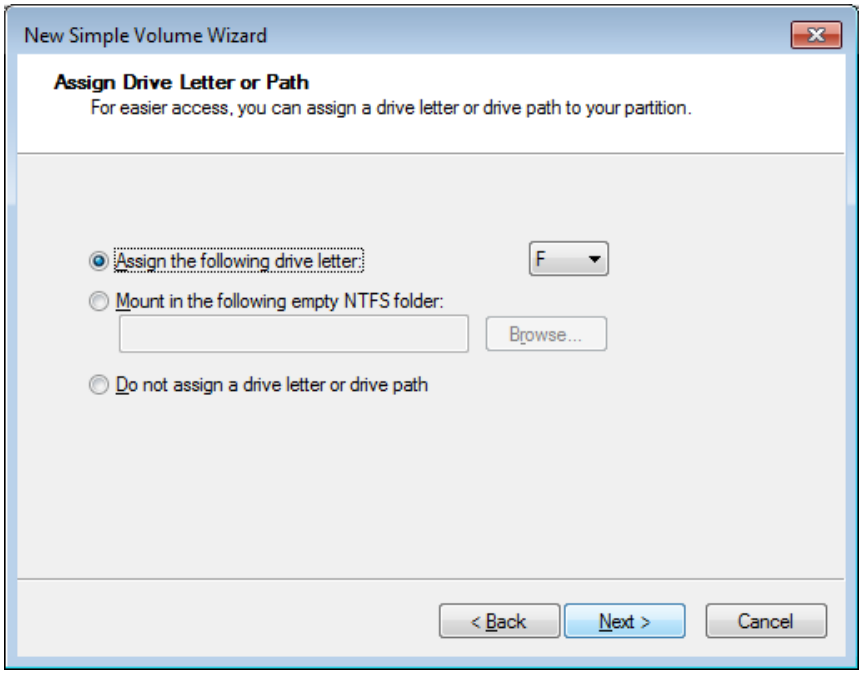

New Simple Volume Wizard
Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter:
F
Mount in the following empty NTFS folder:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

Figure 3-20

Note: The default drive path starts from **F:**.

7. Type a name in the **Volume label** box, ex. HDD1, and click **Next** to continue.

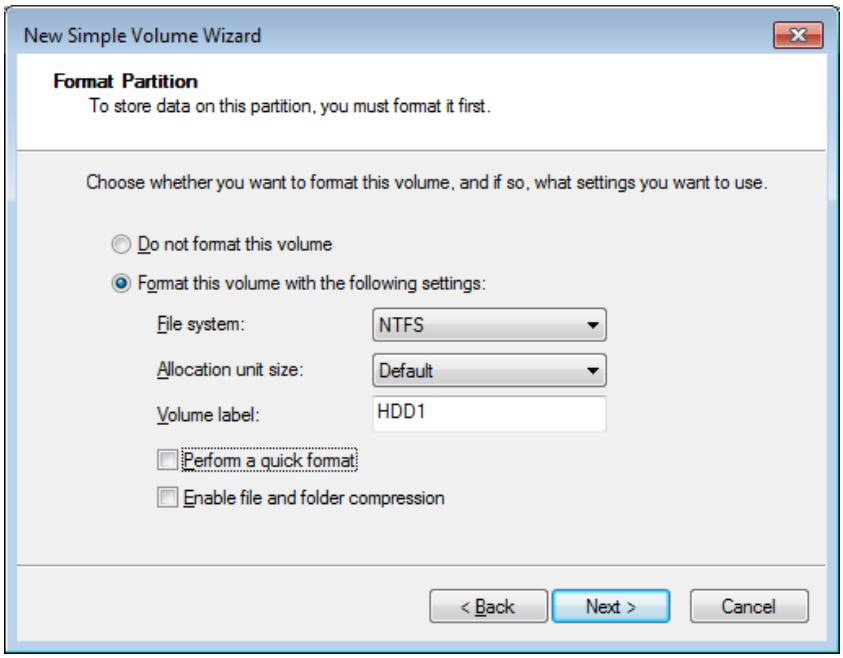

New Simple Volume Wizard
Format Partition
To store data on this partition, you must format it first.
Choose whether you want to format this volume, and if so, what settings you want to use.
Do not format this volume
Format this volume with the following settings:
File system:
NTFS
Allocation unit size:
Default
Volume label:
HDD1
Perform a quick format
Enable file and folder compression
< Back
Next >
Cancel

Figure 3-21

8. When the formatting is complete, click **Finish** to close the wizard.

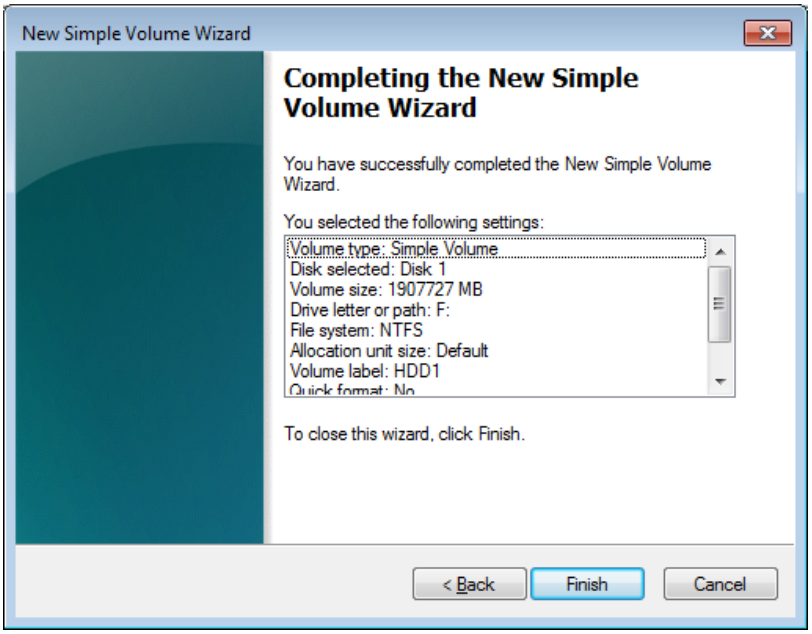

New Simple Volume Wizard
Completing the New Simple Volume Wizard
You have successfully completed the New Simple Volume Wizard.
You selected the following settings:
Volume type: Simple Volume
Disk selected: Disk 1
Volume size: 1907727 MB
Drive letter or path: F:
File system: NTFS
Allocation unit size: Default
Volume label: HDD1
To close this wizard, click Finish.
< Back
Finish
Cancel

Figure 3-22

9. When the drive is successfully initialized, partitioned, and formatted, its status description should display "*Healthy*."

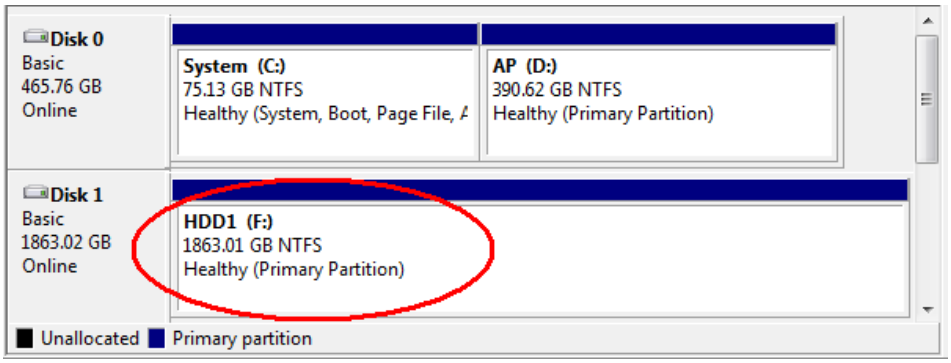


Figure 3-23

3.5 Adding the Hard Drive to the Recording Path

Before recording, you need to add the formatted hard drives to the recording path.

1. On the GV-Desktop, click the **Programs** button, and select **Hot Swap HDD Tool**. The MediaMan Tools window appears.

Figure 3-24

2. If a hard drive is already inserted, right-click it in the MediaMan Tools window, select **Add for recording**, and then select the storage group from the drop-down list.
3. If a hard drive is not inserted, follow these steps:
   A. Insert a hot-swap hard drive or plug a portable hard drive to the GV-Hot Swap DVR V5. This dialog box appears.

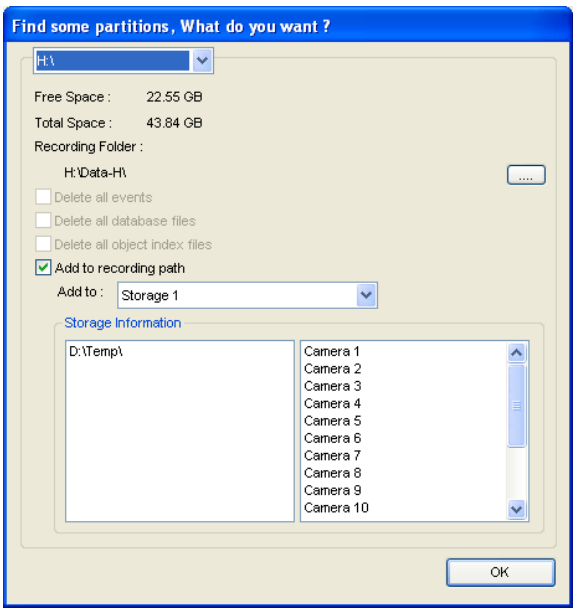


Figure 3-25

B. Select **Add to recording path**, and select the storage group from the drop-down list.

Note: Storage 1 is the default storage group.

---

4. Click **OK** to automatically configure the hard drive to the recording path.
5. In the MediaMan Tools window, if the hard drive is successfully added to store data, its Status field should display "*Standby*".

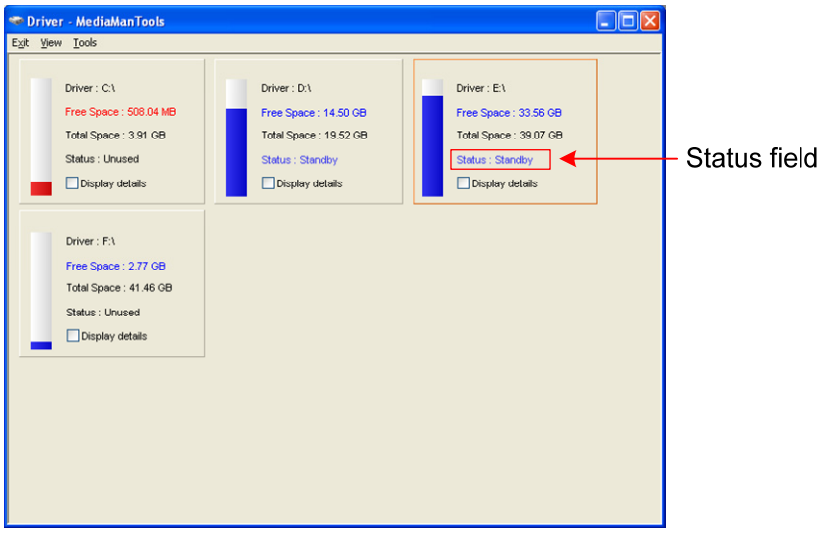


Figure 3-26

6. To add another formatted hard drive for storage, repeat the above steps.

For the details on using Hot Swap HDD Tool, see *Hot-Swap Recording*, Chapter 11, *DVR User's Manual* on the *Surveillance System Software DVD* (or GV-Desktop < **Program** button < **User Manual**).

3.6 Setting Up On-Screen LED Panel

A LED panel on the screen provides a quick indication of the activity status of hard disk drives.

Figure 3-27

LED Color	Description
Gray	- No HDD is assigned to this LED. - GV-System is not started.
Green	A HDD is assigned to this LED.
Red	The HDD is full.
Flashing Green	GV-System is recording.
Flashing Red	The HDD is recycling.

1. On the GV-Desktop, click the **Programs** button, and then select **Hot Swap HDD Tool**.
2. Click **Tools** on the menu bar and select **Setup LED Panel**. This dialog box appears.

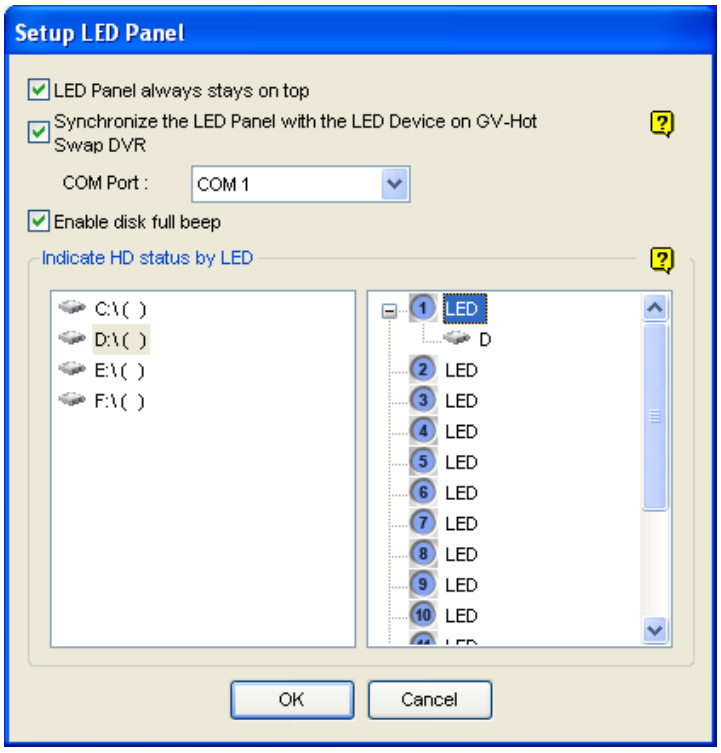


Figure 3-28

- **LED Panel always stays on top:** This option makes the LED panel stay on top of other windows when the Media Man Tools window is minimized.
- **Synchronize the LED Panel with the LED Device on GV-Hot Swap DVR:** When this option is enabled, the LED device installed on the front door of the GV-Hot Swap DVR V5 will synchronize with the LED panel on the screen. Note this function is not available on the 20-bay models.
- **Enable disk full beep:** When the hard disk drive is full, the system sounds on. Note this function only works when speakers are connected to the GV-Hot Swap DVR V5.

3. By default, only the hard disk drive F will be assigned to LED. If you want to re-assign the hard disk drive or assign other drives to LEDs, freely drag and drop the hard disk drive to the desired LED on the tree.
4. Click **OK** to apply the settings, and minimize the MediaMan Tools window to display the LED panel on the screen.
5. If you want to return to the MediaMan Tools window, right-click the LED panel and select **Switch to the setup window**.

Note:

1. Because the LEDs are designed to indicate the video and audio files are being written or read, it is not recommended to assign the HDDs that store log files to the LEDs.
2. If the HDD that stores log files is assigned to a LED and its LED turns red, make sure the log files are not being written before you remove it. Otherwise, the log files might be lost during the removal.

3.7 Replacing the Hard Drive

You can replace the hard drive in the Hot Swap Drive Bay without shutting down the GV-Hot Swap DVR V5. Steps to replace the hard drive may vary from models to models. Be sure to identify your model before replacing the hard drive.

3.7.1 20-Bay Models

1. Make sure the HDD Activity LED (No. 2, Figure 2-4) is off.
2. Slide the release latch to the right. The drawer handle pops up.
3. Pull out the drawer slightly, and wait until the hard drive spins down.
4. Pull out the drawer completely, remove the hard drive, and then mount a new one.
5. Screw the hard drive, and make sure all screw heads flush with the surface.
6. Put the drawer back in the drive bay and slide the release latch again.

3.7.2 8 / 4-Bay Models

1. Do not turn off the power of the drive bay before you replace the hard drive.
2. Turn the safety lock to the OPEN position (see Figure 3-11).
3. Push the safety lock. The drawer handle pops up.
4. Lift the handle, pull out the drawer slightly and wait until the hard drive spins down.
5. Pull out the drawer completely, remove the hard drive, and then mount a new one.
6. Put the drawer back in the drive bay.
7. Push the drawer handle back, and turn the safety lock to the LOCK position.

3.8 Configuring an IP Address

The purpose of configuring an IP address is to support the remote monitoring, control and configuration of the GV-Hot Swap DVR V5 over a network connection.

The GV-Hot Swap DVR V5 is enabled for DHCP network. An IP address will be automatically allocated when the GV-Hot Swap DVR V5 is powered up. Despite the DHCP setting, it is recommended that a static IP address be configured on the unit.

1. On the GV-Desktop, click the **Programs** button, and then select **Control Panel**.

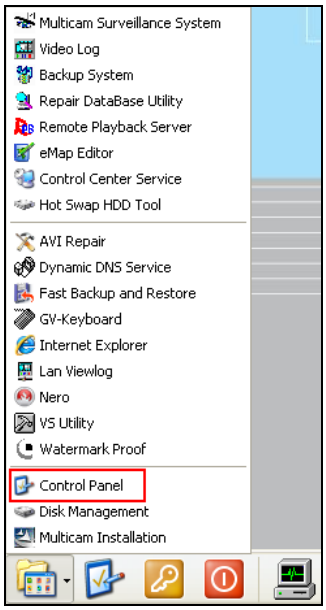


Figure 3-29

2. Type the ID and password. The default ID and password are "**0000**". The Control Panel window appears.
3. Under Network and Internet, click **View network status and tasks**.

Figure 3-30

4. Under Connections, select the **Local Area Connection** you want to configure.

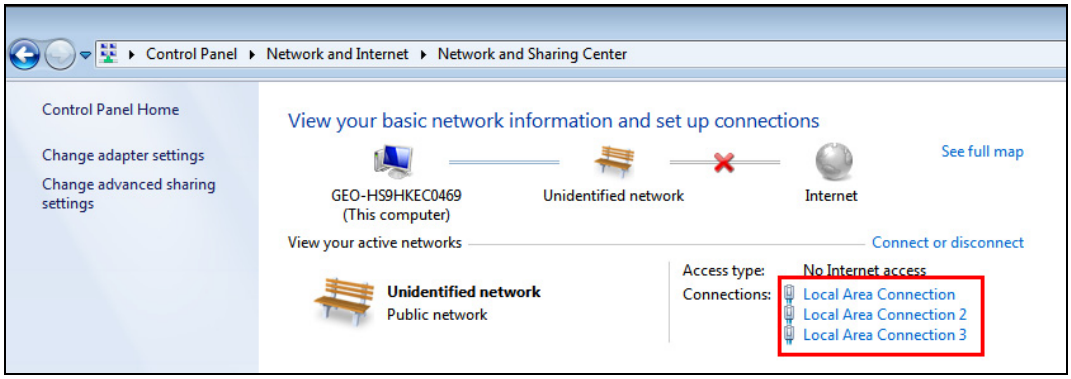
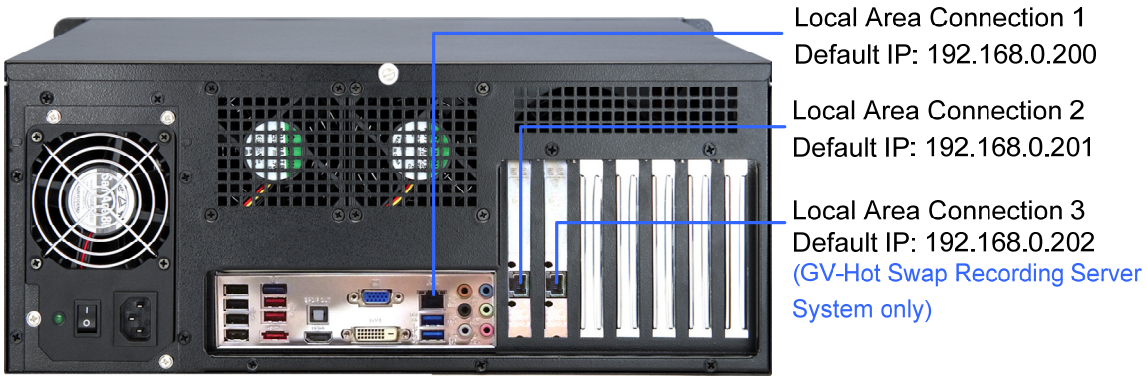


Figure 3-31

The local area connections listed correspond to the Ethernet ports as shown below:



Default Subnet Mask: 255.255.252.0

Figure 3-32

5. Select **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.

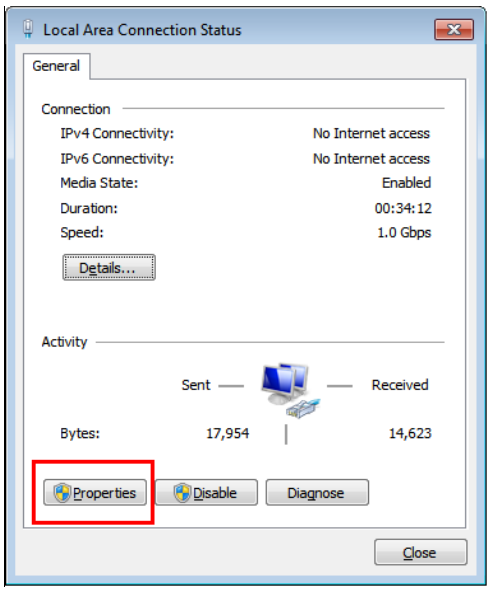


Figure 3-33

6. Select **Use the following IP address**, type the IP information in the fields, and click **OK** to finish the setting.

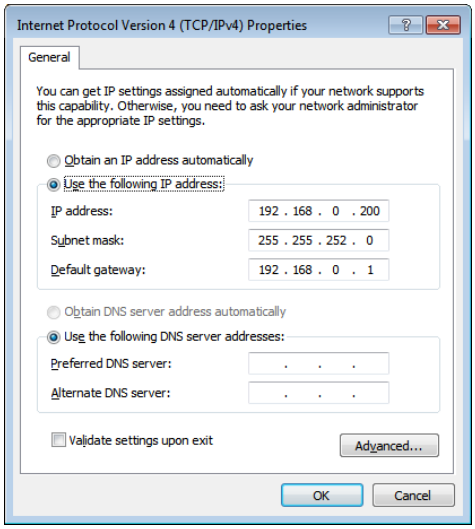

Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 200
Subnet mask:
255 . 255 . 252 . 0
Default gateway:
192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

Figure 3-34

3.9 Exiting to Windows

The unit is protected by GV-Desktop that is limited to run the selected programs. If you need to exit to Windows desktop, follow these steps.

1. Exit the main screen to display the GV-Desktop screen.

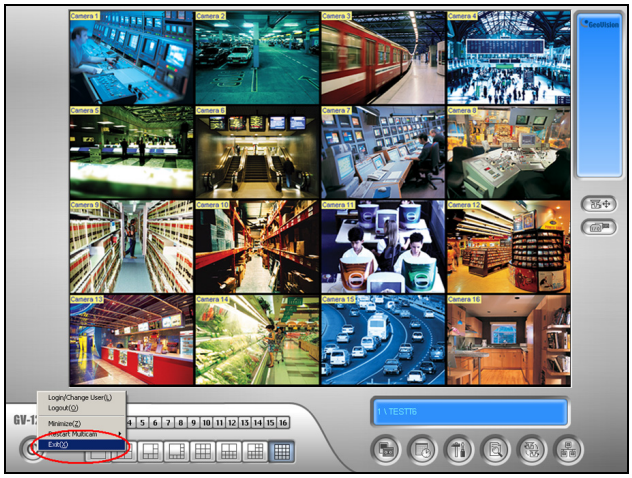


Figure 3-35 Exit the main screen

2. Click the **Settings** button, and type the valid ID and password. The default ID and Password are "**0000**". The Settings dialog box appears.
3. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
4. Click the **Log Off** button, and enter the valid ID and Password to display the Windows desktop.

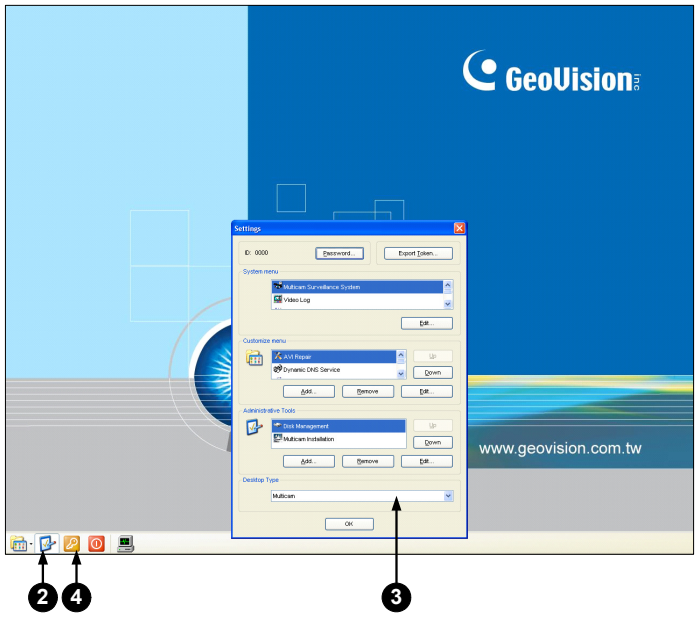


Figure 3-36 The GV-Desktop

3.10 Returning to GV-Desktop

Click the Windows **Start** button, point to **All Programs**, click **GVCombo**, and click **Key Lock Utility**.

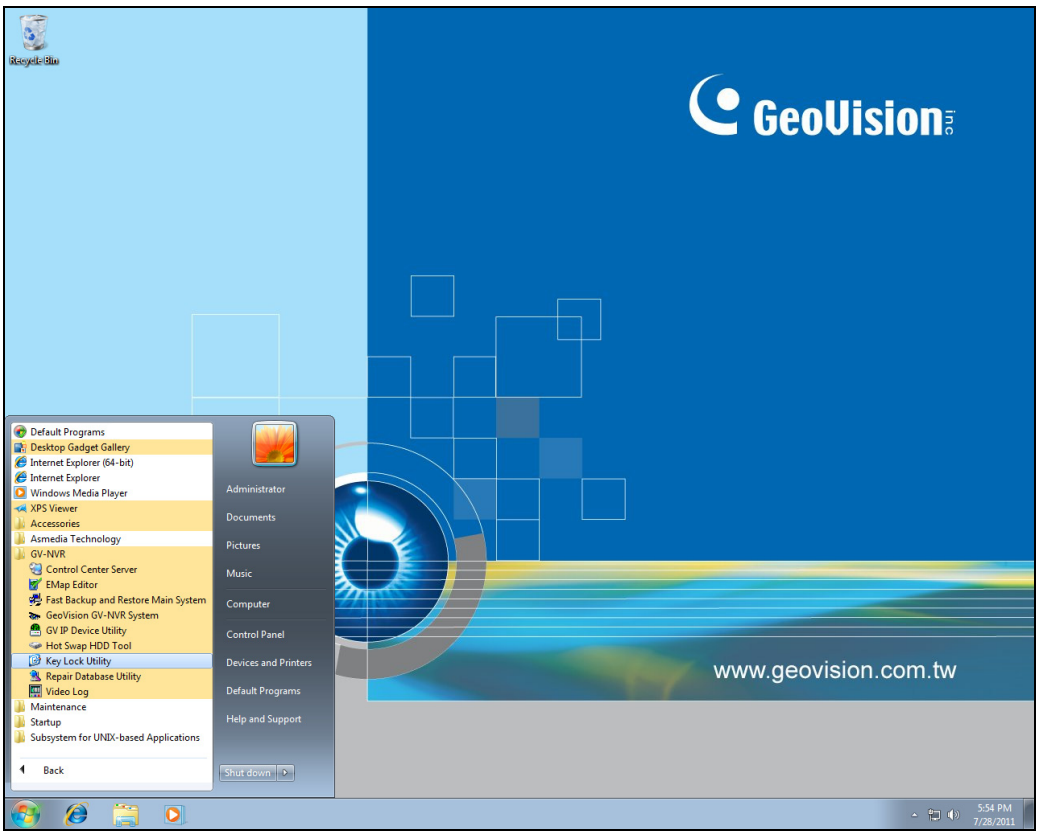


Figure 3-37 Windows 7 desktop

3.11 Twin View Display

You can display Main System and ViewLog in two separated monitors.

1. Follow Steps 1 and 2 in *3.8 Configuring an IP Address* to access the Control Panel window. See Figure 3-30.
2. In the Control Panel window, click **Adjust Screen Resolution** under the Appearance and Personalization section. This dialog box appears.

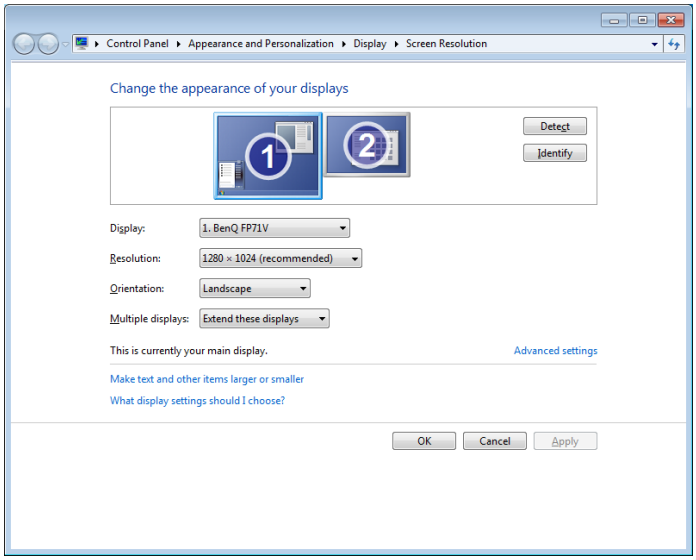


Figure 3-38

3. Click the **Display** list. If you do not see multiple monitors listed, check if your additional monitors are connected with the computer properly.
4. Select the primary monitor from the list, and select **Make this my main display**.
5. Select additional monitors from the list, and select **Extend these displays** in the Multiple displays drop-down list.
6. Click **Identify**. Windows 7 displays a large number to identify your monitors. Drag and drop the monitor icons to match the physical arrangement of your monitors.
7. Click **OK**.
8. Click the **Up** button on the toolbar, go the system folder and locate **DMPOS.exe**.

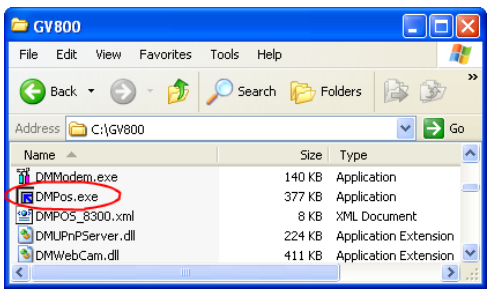


Figure 3-39

9. Double-click **DMPOS.exe**. The Set Application Function Position dialog box appears.

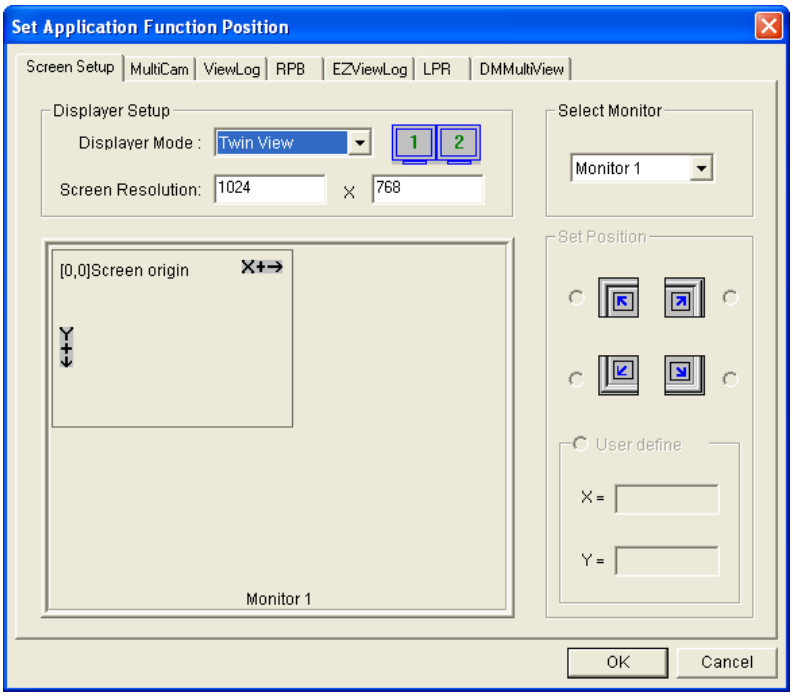


Figure 3-40

10. In the Screen Setup tab, select **TwinView** from the Displayer Mode drop-down list.
11. In the MultiCam tab, select **Monitor 1** from the Select Monitor drop-down list.
12. In the ViewLog tab, select **Monitor 2** from the Select Monitor drop-down list.
13. Click the **OK** button and start GV-System, which should appear on monitor 1.
14. Click the **ViewLog** button on the main screen and select **Video/Audio Log** from the menu. ViewLog should appear on monitor 2.

Note: The **Set Position** option allows you to determine where to position GV-System on Windows. It is only necessary if the panel resolution of your GV-System is set to be 800 x 600 and your Windows desktop is set to be 1024x768 or higher. It is recommended that resolution of both GV-System and Windows desktop should be set the same. For details on how to set the resolution for GV-System, refer to *Panel Resolution* in Chapter 1, *DVR User's Manual* on the Surveillance System Software DVD (GV-Desktop < **Program** button < **User Manual**).

3.12 Digital Matrix

To create more screen space to display multiple channels, such as 32 channels, Digital Matrix is thus introduced to provide a way to view and manage multiple monitor displays.

The Digital Matrix includes these features:

- **Live view:** You can set different live views and screen divisions for each monitor.
- **Automatic channel scan:** You can set up to 16 scanned pages with different screen divisions and channels for each monitor.
- **Pop-up Alert:** You can be alerted by pop-up live videos when motion is detected or I/O devices are triggered.

3.12.1 Activating Multiple Monitors

Use Windows Display Property to activate multiple monitors.

1. Follow Steps 1 to 6 in *3.11 Twin View Display* to configure the additional monitors.
2. Start the GV-System, click the **Configure** button, click **Accessories**, select **Digital Matrix Setting**, select monitors from the **Display** list and select **Activate** for each monitor. All monitors must be activated one by one.
3. Click **Apply**. Your additional monitors should now display the channels seen on the primary monitor.

3.12.2 Setting Live View

You can set different live views and screen divisions for each monitor.

1. On the main screen, click the **Configure** button, click **Accessories**, and select **Digital Matrix Setting**. This dialog box appears.

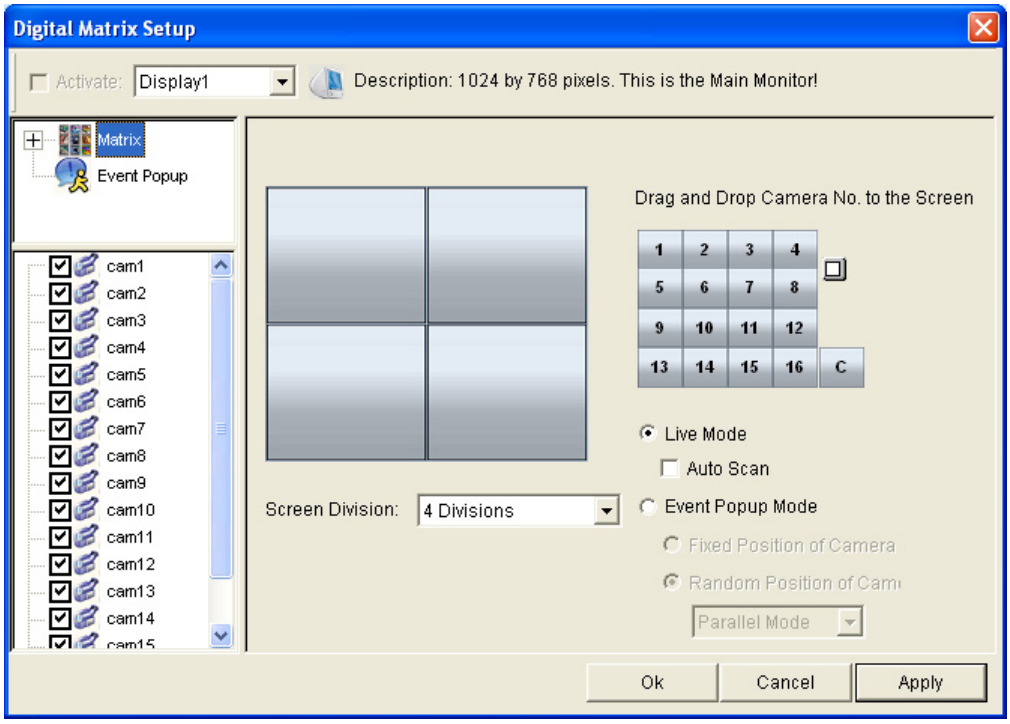


Figure 3-41

2. Use the **Display** list to select the monitor to be configured.
3. Select **Screen Division**.
4. Drag and drop the camera numbers to the desired positions on the divisions. To clear the assignment, drag and drop the “C” icon to that position.
5. Select **Live Mode**.
6. Repeat above steps to configure other monitors.
7. Click **OK** to apply the settings.

3.12.3 Setting Scanned Pages

You can set up to 16 scanned pages with different screen divisions and channels for each monitor.

1. Use the **Display** list to select the monitor to be configured.
2. In the upper-left column, expand the **Matrix** folder tree, and then click **Page 1**. This page appears.

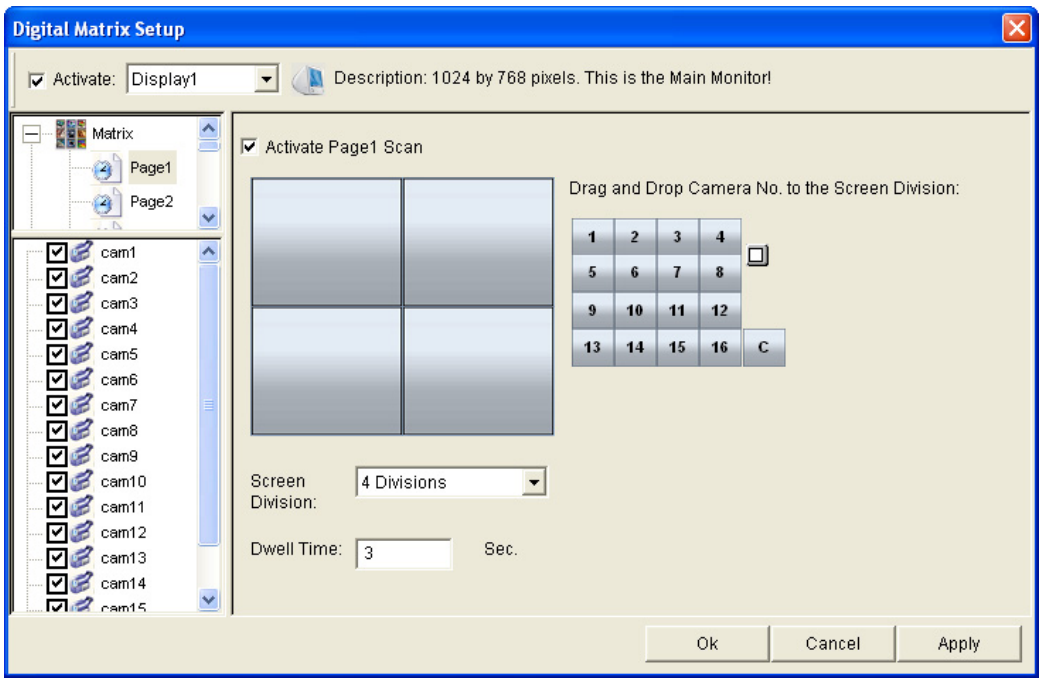


Figure 3-42

3. Select **Activate Page 1 Scan**.
4. Select **Screen Division**.
5. Drag and drop the camera numbers to the desired positions on the divisions. To clear the assignment, drag and drop the “C” icon to that position.
6. Specify **Dwell Time** for how long this scanned page remains on the monitor.
7. Repeat Steps 2 to 5 to configure more scanned pages for the specific monitor.
8. Repeat Steps 1 to 7 to configure scanned pages for other monitors.
9. In the upper-left column, click the **Matrix** icon and return to Figure 3-41.
10. Select **Auto Scan**.
11. Click **OK** to start scanning among pages.

3.12.4 Setting Pop-up Alert

You can be alerted by pop-up live videos when motion is detected or I/O devices are triggered.

1. Use the **Display** list to select the monitor to be configured.
2. In the upper-left column, click **Event Popup**. This page appears.

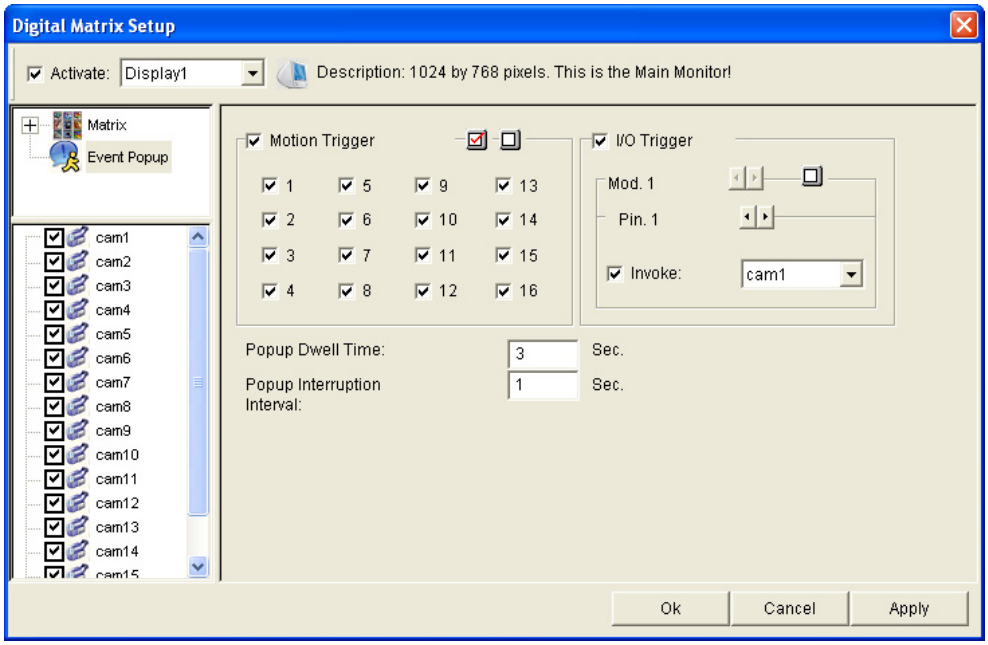


Figure 3-43

- **Motion Trigger:** The live video of selected cameras pops up when motion is detected.
- **I/O Trigger:** The live video of assigned camera pops up when the selected input device is triggered.
- **Popup Dwell Time:** Specify the amount of time that a pop-up live video remains in the foreground.
- **Popup Interruption Interval:** Specify the interval between camera pop-ups. This option is useful when several cameras are activated for pop-up alert at the same time.

3. Use the **Display** list to select other monitors for setup.
4. After above settings, click the **Matrix** icon and return to Figure 3-42.
5. Select **Event Popup Mode**. Then select **Fixed Position of Camera** or **Random Position of Camera**. For these two options, see *3.12.4.1 Setting Pop-up Positions*.
6. Click **OK**.
7. Start monitoring. When motion is detected or the input device is triggered, the live video will pop up for alert.

3.12.4.1 Setting Pop-up Positions

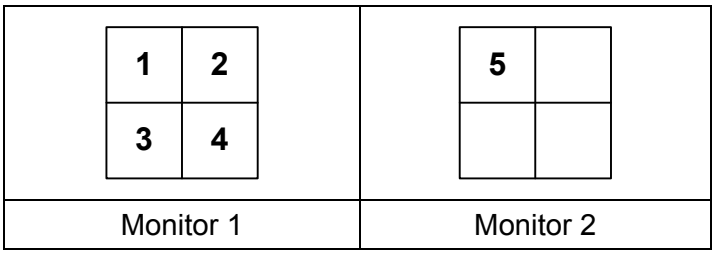
When you select **Random Position of Camera**, you can decide the positions for pop-up cameras.

- **Fixed Position of Camera:** The cameras pop up in their assigned positions. To assign positions, select **Screen Division**. Then drag and drop the cameras number to the desired potions on the divisions.
- **Random Position of Camera:** The positions of pop-up cameras are based on the sequence order of triggers. There are two modes for this position:

1. **Cascade Mode:** This mode can avoid the same cameras popping up on different monitors. This is suggested to be used when multiple monitors are placed close to each other.

   Example:

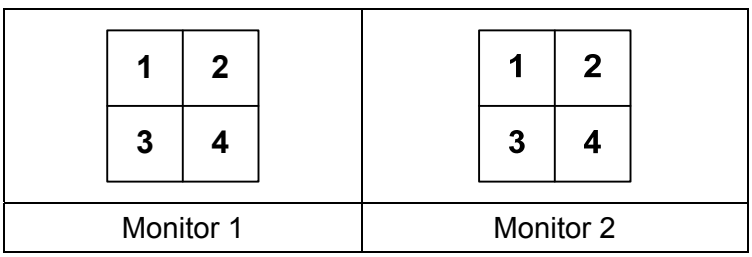
   Camera 1, Camera 2, Camera 3, Camera 4 and Camera 5 are assigned for pop-up alert on both Monitor 1 and Monitor 2. Monitor 1 is set at 4 screen divisions. When the five cameras are triggered at same time, the first 4 cameras show up on Monitor 1 and the 5th on Monitor 2.



2. **Parallel Mode:** This mode allows the same cameras simultaneously pop up on different monitors. This is suggested to be used when multiple monitors are placed in separate rooms.

   Example:

   Camera 1, Camera 2, Camera 3 and Camera 4 are assigned for pop-up alert on both Monitor 1 and Monitor 2. When the four cameras are triggered at the same time, they will show up simultaneously on both Monitor 1 and Monitor 2.



3.12.5 Setting Live View with Pop-up Alert

You can set a different live view mode with pop-up alert together for each monitor. When alert events occur, the live video of the associated camera will pop up on the assigned monitor to replace its live view mode.

1. To configure live view mode, follow the instructions in *3.12.2 Setting Live View*.
2. To configure pop-up alert, in the upper left column, click **Event Popup**. Figure 3-43 appears.
3. Configure **Motion Trigger**, **I/O Trigger**, **Popup Dwell Time** and **Popup Interruption Interval** for each monitor. For details see *3.12.4 Setting Pop-up Alert.*
4. Click the **Matrix** icon and return to Figure 3-42. Ensure the **Live Mode** option is selected.
5. Click **OK**. The live view mode you configured for each monitor is displayed.
6. Start monitoring. When alert events occur, the associated camera will pop up on the desired monitor.

3.13 Extended Installation

Beyond basic installation, the GV-Hot Swap DVR V5 package provides the following accessories to make your unit even more powerful and convenient:

- GV-Keyboard
- GV-IR Remote Control
- RJ-11 to USB Cable for PTZ control and I/O devices

Note: The RJ-11 to USB Cable is not available for GV-800H V5, GV-1480H / 1240H / 1120H V5 and GV-Hot Swap Recording Server System.

3.13.1 GV-Keyboard

The GV-Keyboard is designed to operate the GV-Hot Swap DVR V5 exclusively. Using the USB cable supplied with the GV-Keyboard, plug one end into the GV-Keyboard and the other end into the assigned USB port **(COM4)** on the back of the GV-Hot Swap DVR V5; you can operate the Keyboard immediately without installing any drivers.

For details on the GV-Keyboard, find the *Installation Manual* included in its own package.

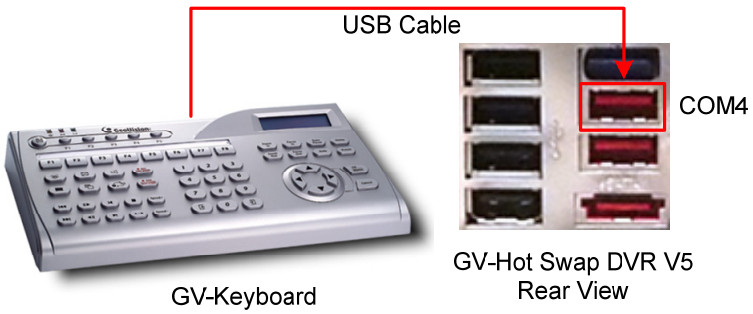


Figure 3-44

It is also possible to plug the Keyboard into other USB ports of the GV-Hot Swap DVR V5. For this, you must modify the default COM port on the Keyboard & Joystick pop-up once the Keyboard is connected. See Figure 3-45-1.

To modify the default COM port:

1. Click ■ stop the Keyboard service first.
2. In the Port field, modify the port number from the drop-down list. For the port allocation, refer to Figure 3-45-2.
3. Click ▶ to start the service.

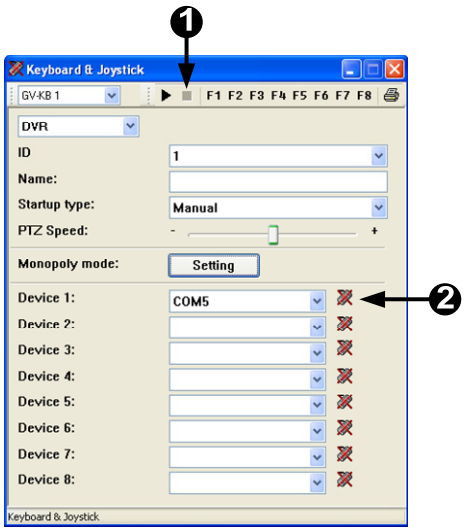


Figure 3-45-1

USB & COM Ports Allocation on GV-Hot Swap DVR System V5

Figure 3-45-2

3.13.2 GV-IR Remote Control

The GV-IR Remote Control provides easy control of the GV-Hot Swap DVR V5. Its receiver is built in all 20-bay models, and for 8 / 4-bay models, the receiver should be plugged into any USB ports of the GV-Hot Swap DVR V5.

For details, see *GV-IR Remote Control User's Manual* (GV-Desktop < **Program** button < **User Manual**).

GV-IR Remote Control

GV-Hot Swap DVR V5

Figure 3-46

3.13.3 I/O Devices

The GV-Hot Swap DVR V5, with built-in GV-NET/IO Card, provides 4 alarm outputs and 4 sensor inputs.

For 8 / 4-bay GV-NVRH V5, GV-4008H V5 and GV-4016H V5, you will need to plug the supplied RJ-11 to USB cable into the RJ-11 port and a USB port.

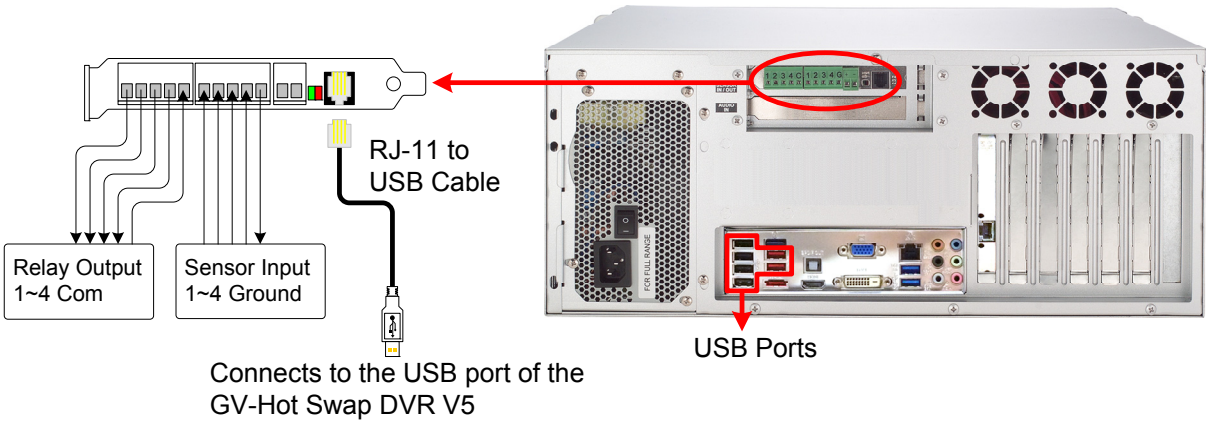


Figure 3-47

3.13.4 PTZ Domes

You can connect PTZ domes to GV-Hot Swap DVR V5 using the RS-485± interface.

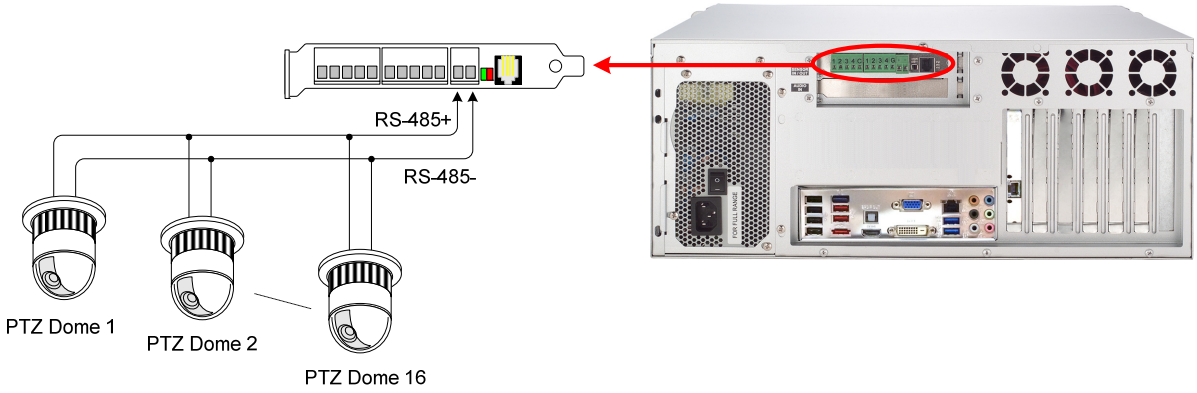


Figure 3-48

Note:

1. For the users of GV-4016H V5, GV-4008H V5 and GV-NVRH V5, they can access the PTZ functions through the connection to the IP devices, such as GV-Video Server or GV-Compact DVR, over the Internet.
2. The RS-485± functions are not available for GV-4016H V5, GV-4008H V5 and GV-NVRH V5. However, you can still connect a RS-485 device to the GV-4016H / GV-4008H / GV-NVRH V5 via a GV-COM or a GV-Hub. For details, see *1.3 Options*.

3.14 System Restoration

3.14.1 Recovery DVD

If preinstalled files are damaged, use the supplied Recovery DVD to restore them. To restore the operating system and all preinstalled software, follow these steps:

Note: After recovery, you need to re-install all settings and passwords. But the recovery will not delete your recording files saved on the GV-Hot Swap DVR V5 since it only reformats the partition C and all of your files are still stored on other partitions.

---

1. Remove or turn off the power of any connected USB devices.
2. Turn off the power of all drive bays.
3. Insert the Recovery DVD and restart the system. The Windows Boot Manager appears.

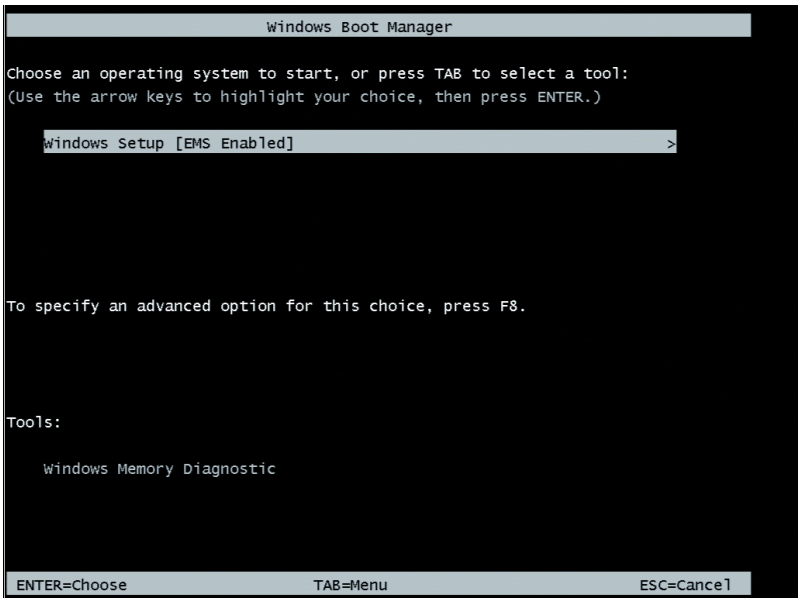

Windows Boot Manager
Choose an operating system to start, or press TAB to select a tool:
(Use the arrow keys to highlight your choice, then press ENTER.)
Windows Setup [EMS Enabled]
To specify an advanced option for this choice, press F8.
Tools:
Windows Memory Diagnostic
ENTER=Choose
TAB=Menu
ESC=Cancel

Figure 3-49

4. Press **Enter** to start the Recovery Wizard.

Figure 3-50

5. Click the **Recovery** button.
6. The message "*Are you sure you want to recover your system? This process will delete all data on your C drive.*" appears. Click **Yes**.

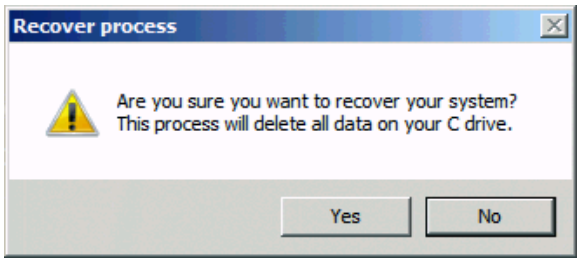


Figure 3-51

7. This message box appears when the recovery begins.

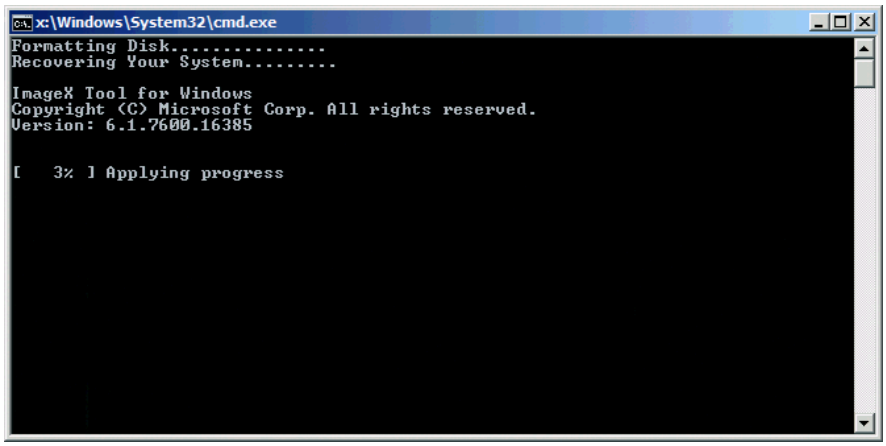


Figure 3-52

8. When the recovery is complete, the message "*The system has been recovered successfully*" will appear. Manually remove the DVD and then click **OK**.

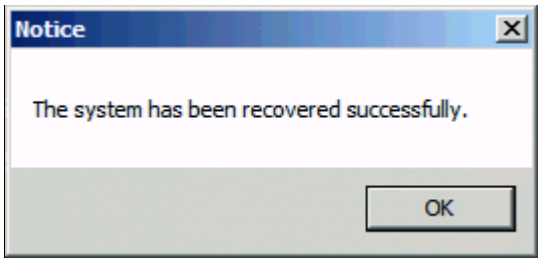


Figure 3-53

3.14.2 Configuring the GV-Hot Swap DVR V5 for PAL after Recovery

The default video standard of the Recovery DVD is set to NTSC. If the video standard in your country is PAL, remember to configure the GV-Hot Swap DVR V5 for PAL after using the Recovery DVD.

1. Click the **Configure** button, point to **A/V Setting**, and then select **Video Source**.

Figure 3-54

2. In the Video Standard field, select **PAL** from the drop-down list, and click **OK**.

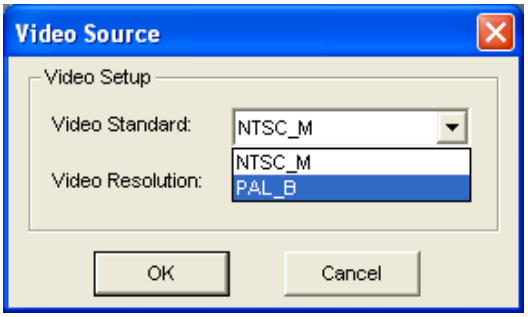


Figure 3-55

3.15 Updating GV-Hot Swap DVR V5

GeoVision will periodically release the updated Recovery DVD including the latest GV-System Software (Multicam Surveillance System) and Windows updates. If you like to update your GV-Hot Swap DVR V5, contact your dealer to get one.

Before contacting your dealer, you may check software update news at our website: http://www.geovision.com.tw

Chapter 4 DVR Health Analysis

GeoVision offers health analysis to GV-Hot Swap DVR V5. The service is intended to give diagnosis for early and immediate detection of problems.

It is recommended to have the health analysis during the first week after you install the GV-Hot Swap DVR V5, and then have the checkup every three months. It will take 5 working days for response.

Please prepare the following data for analysis, and send to dvrsystem@geovision.com.tw

- **System Settings**
- **System Log**
- **Information of your computer system (Processor; Drives; Voltage, Temperature and Fans)**

4.1 System Settings

Please back up your system configurations using the **Fast Backup and Restore** application.

1. Run **Fast Backup & Restore Main System** from the Start menu.

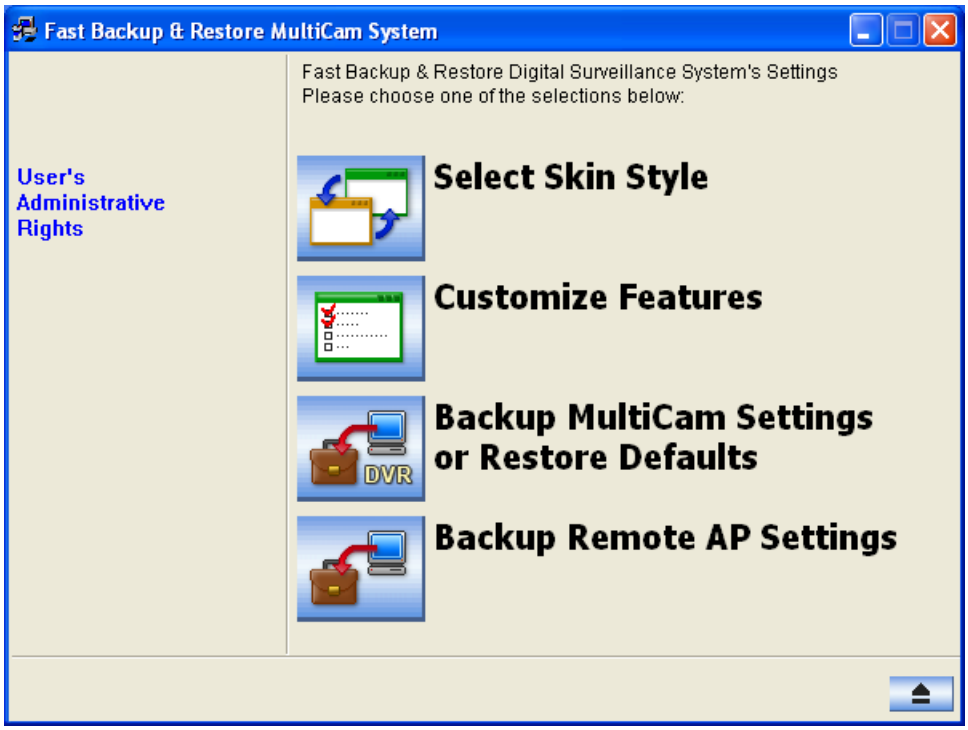

Fast Backup & Restore MultiCam System
Fast Backup & Restore Digital Surveillance System's Settings
Please choose one of the selections below:
User's Administrative Rights
Select Skin Style
Customize Features
DVR
Backup MultiCam Settings or Restore Defaults
Backup Remote AP Settings

Figure 4-1

2. Select **Backup MultiCam Settings or Restore Defaults**, and select **Backup Current System**. This dialog box appears.

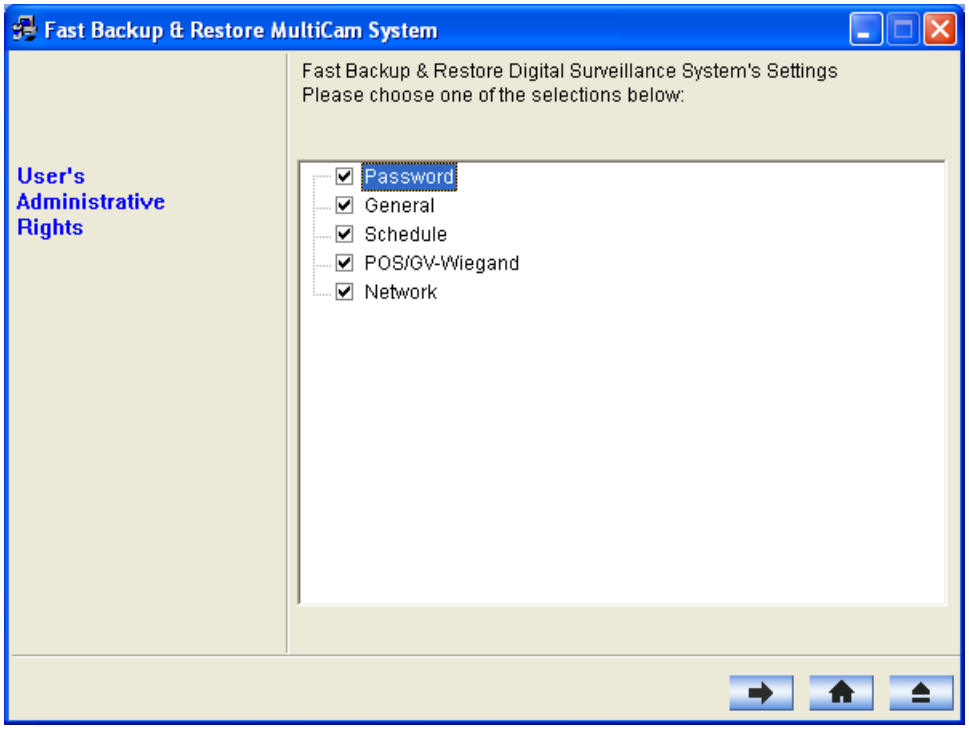


Figure 4-2

3. Press the **Next Step** button to back up all your system settings. The Save As dialog box appears.
4. Select the destination drive to store the backup file. When the backup is complete, this message "*Successfully Backup MultiCam System Settings*" will appear.

4.2 System Log

Please provide the **sys*.mdb** files of system log. The files by default are saved at **D:\GV folder\database**. If you have modified the default location, you can check the path by the following steps:

1. Click the **Configure** button on the Main System, select **System Configure**, and then select **System Log Setting**. This dialog box appears.

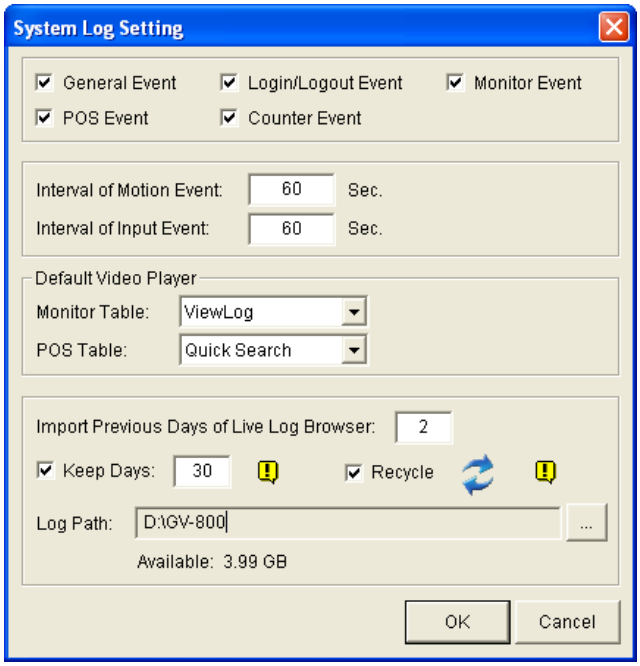


Figure 4-3

2. The location of your system log is listed after **Log Path**.

4.3 Information of Your Computer System

To get the information of your computer system, please follow the steps below to install the free software PC WIZARD. By using the software, the following computer information can be easily collected and saved for analysis:

- **Processor:** includes Type, Frequency, Data Cache L1, Trace Cache L1, Cache L2, Voltage, Processor Temperature, FPU Coprocessor.
- **Drives:** includes Number of Hard Disk, Number of Drive, Total Size and Free Space of Drive.
- **Voltage, Temperature and Fans:** includes Monitoring Chip, Voltage CPU, Chassis Fan, Processor Temperature, Mainboard Temperature, Hard Disk Temperature.

1. Download and install **PC WIZARD** from http://www.cpuid.com/pcwizard.php .
2. After installation, run the program.
3. Right-click the **Processor** icon and click **Save as**.

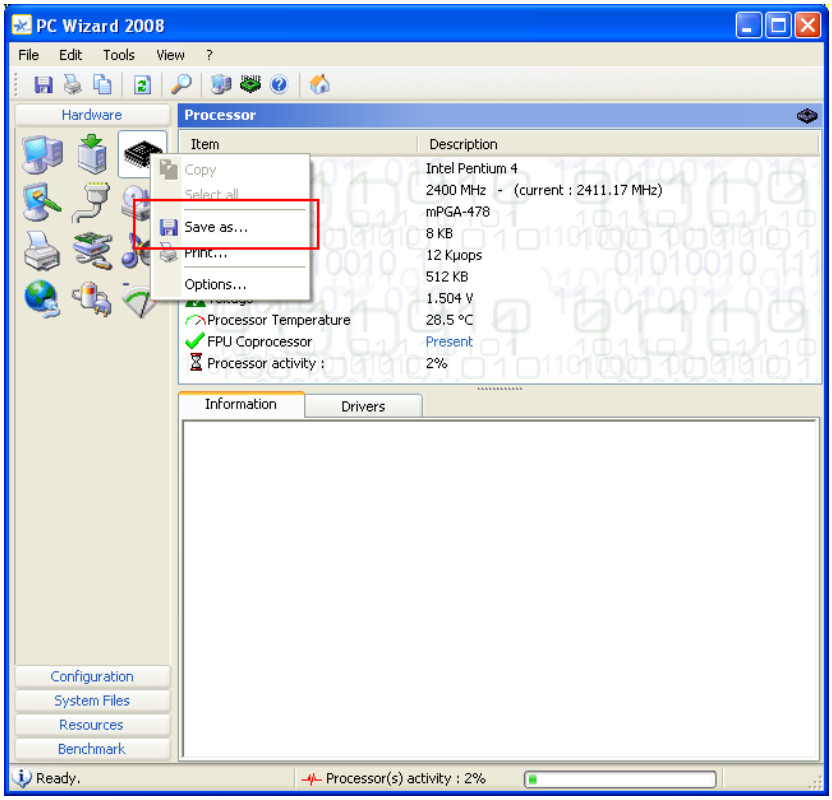


Figure 4-4

4. In the Save As dialog box, select **Format HTML** and click **OK**.

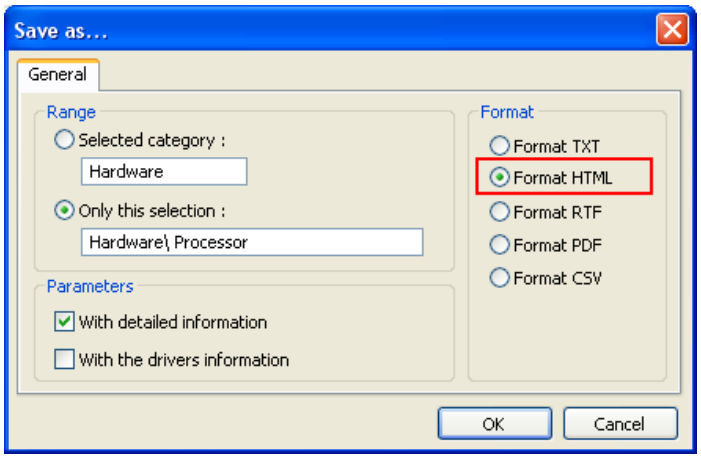


Figure 4-5

5. Select the Save location, type the file name, and then click **Save** to save the Processor information as HTML file.
6. Repeat Steps 3-5 to save the **Drives** information as HTML file.
7. To save the **Voltage, Temperature and Fans** information , please follow these steps:
   A. Click the **Voltage, Temperature and Fans** icon. The related data is displayed at the right window.
   B. Click the first item **Monitoring Chip**.
   C. Click **Edit** on the menu bar and click **Select All** to highlight all the contents.
   D. Click **Edit** on the menu bar and select **Copy**.
   E. Open a Notepad. Paste and save the information to TXT file.

4.4 Health Analysis Form

Please send the related data for analysis along with this Health Analysis Form to dvrsystem@geovision.com.tw.

Health Analysis of GV-Hot Swap DVR V5	
Contact Person:	**Title:**
Company Name:	
Telephone: (O)	**(H)**
Fax:	
E-Mail:	
Model:	
Bar Code:	

4.5 Check List

Read this check list before submitting the health analysis request:

- System Settings- **EXE file**
- System Log- **sys*.mdb**
- Computer System- Processor information of **HTML file**
- Computer System- Drives information of **HTML file**
- Computer System- Voltage, Temperature and Fans information of **TXT file**
- Health Analysis Form

Chapter 5 Troubleshooting

GV-Hot Swap DVR V5 is designed for durability. However, should problems occur, following the procedures here can help determine the cause.

A portable 2.5" HDD connected to the GV-Hot Swap DVR V5 front panel cannot be detected.

When the portable 2.5” HDD connected to a GV-Hot Swap DVR V5 cannot be detected, try this step:

Use a dual head USB cable and insert both heads to the USB ports on the GV-Hot Swap DVR V5 front panel as illustrated below.

20-Bay Models

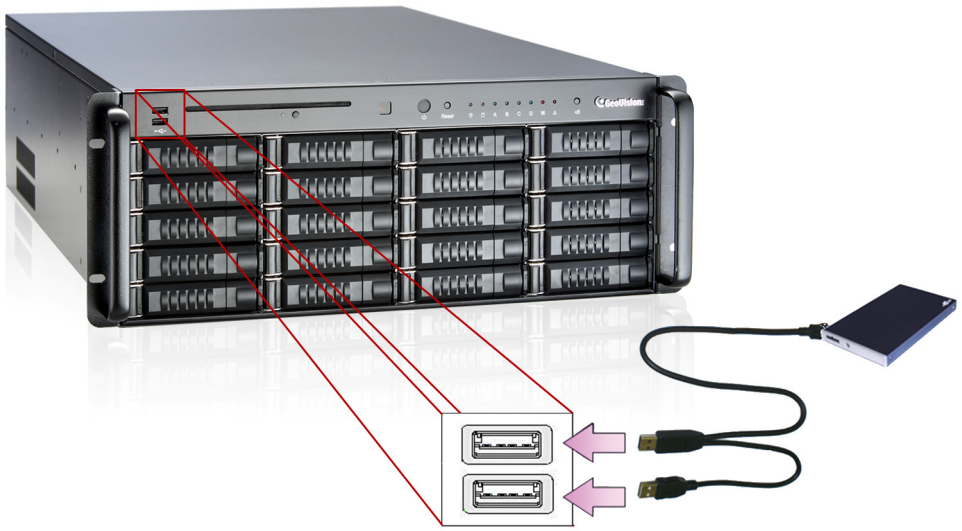


Figure 5-1

GV-Hot Swap DVR V5 won't turn on.

If your GV-Hot Swap DVR V5 won't turn on or you don't hear a startup sound or any fan or drive noise, try these steps:

1. Make sure that you switch on the AC power on the rear panel.

20-Bay Models

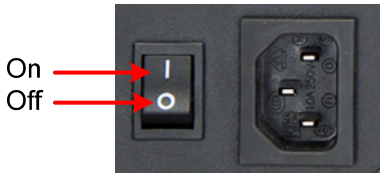


Figure 5-2

8 / 4-Bay Models

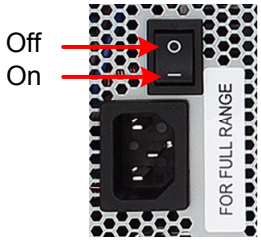


Figure 5-3

2. Make sure that the power cord is properly connected to both GV-Hot Swap DVR V5 and power outlet. If you are using a power strip, make sure that the strip is powered on.
3. If the problem persists, consult your dealer.

GV-Hot Swap DVR V5 stops responding (aka "crashed" or froze").

If your GV-Hot Swap DVR V5 is not responding to your clicking, typing, or mouse movements, try these steps to get your GV-Hot Swap DVR V5 back on track. Please note that you will lose any unsaved changes in all open applications.

1. Restart your GV-Hot Swap DVR V5 by pressing the **Reset** button on the front panel.
2. If your GV-Hot Swap DVR V5 is still unresponsive, switch off the **Power** button to shut it down. Wait 30 seconds and then restart your GV-Hot Swap DVR V5.

20-Bay Models

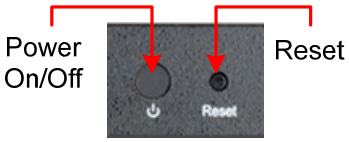


Figure 5-4

8 / 4-Bay Models

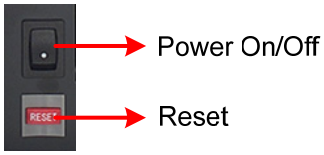


Figure 5-5

GV-Hot Swap DVR V5's hard disk corrupts.

If you are experiencing file system corruption problems, such as lost clusters, cross-linked files or invalid files or directories, try these steps:

1. Use the **HD Tune** utility to scan the hard disk for errors. Follow these steps:
   A. Download and install **HD Tune** from http://www.hdtune.com/
   B. Click the **Error Scan** tab and click **Start** to scan. Any found defects will be shown as red blocks (see Figure 5-6).

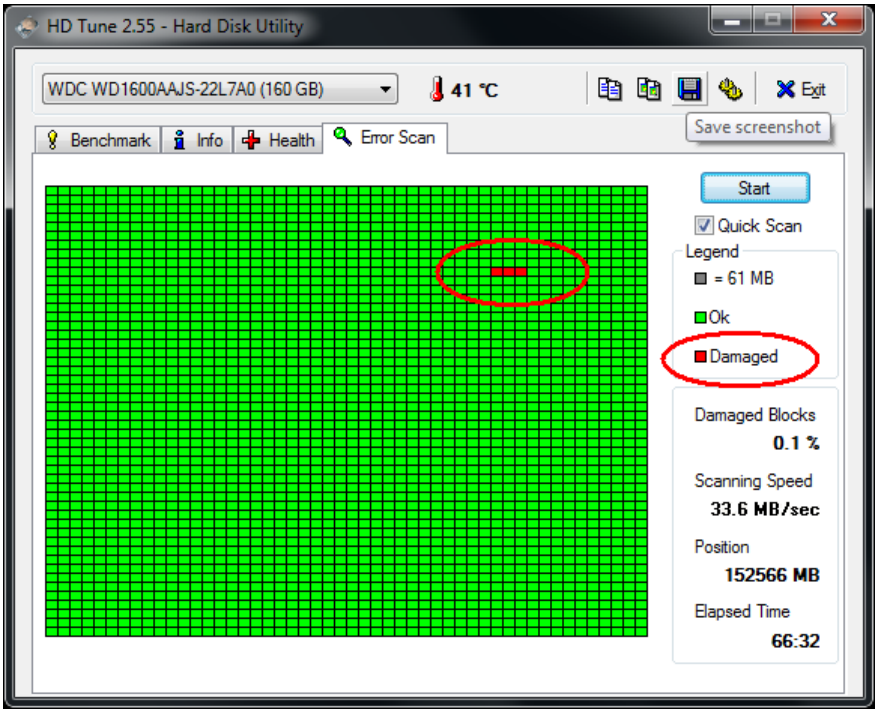


Figure 5-6

   C. If your hard disk drive is damaged, replace a new one.

2. If the HD Tune utility does not find any defects, use the Windows built-in utility to attempt to fix the errors. Follow these steps:

   A. On the GV-Desktop, click the **Programs** button, and select **Disk Management**. See Figure 3-15.

   B. Right-click the desired hard disk and select **Properties** from the file menu to display the Properties window.

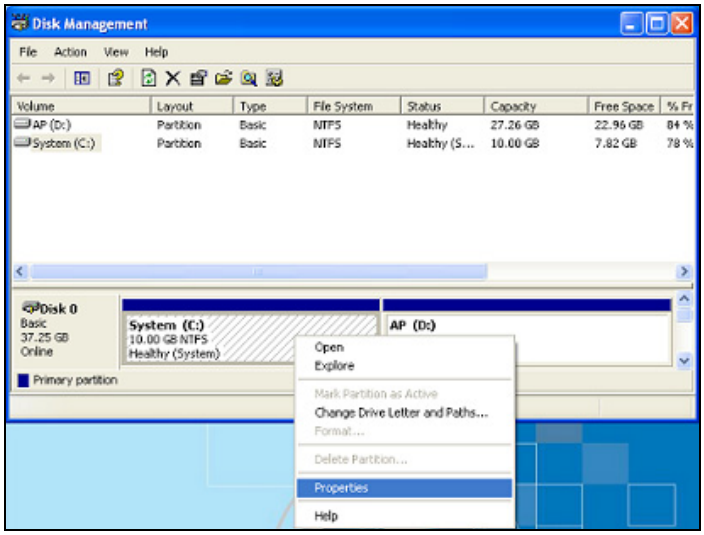


Figure 5-7

   C. Click the **Tools** tab in the upper portion of the window.

   D. Under Error-checking, click the **Check Now** button.

Figure 5-8

   E. Select **Automatically fix file system errors** and **Scan for and attempt recovery of bad sectors**.

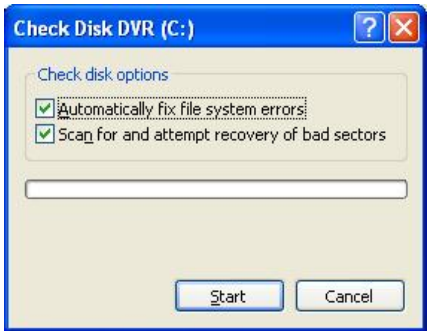


Figure 5-9

   F. Click **Start**.

3. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operating system and GV-System Software by using the Recovery DVD. Refer to *3.14.1 Recovery DVD*.
4. If the problem persists, replace a hard disk drive.

GV-Hot Swap DVR V5 suffers virus attack.

GV-Hot Swap DVR V5 is designed and optimized for Windows XP platform. It may be vulnerable to newly created worms and exploits that attack any of the underlying operating system's previously undocumented flaws. If your GV-Hot Swap DVR V5 suffers virus attack, try rebuilding the operating system and GV-System Software by using the Recovery DVD. Refer to *3.14.1 Recovery DVD*.

GV-Hot Swap DVR V5 has video and/or audio lost.

If your GV-Hot Swap DVR V5 fails to show video, audio or both, try these steps:

1. Check the video/audio connection. Make sure one end of the D-type video/audio cable is securely connected to the video/audio device, and the other end to the video/audio port of the GV-Hot Swap DVR V5.
2. Make sure the video/audio device is turned on.
3. Switch the cable from the functional channel to the non-functional channel, and vice versa. If the previously non-functional channel is now able to deliver video/audio, you should check the video/audio device itself and its related cables.

The screen image appears distorted or jitters.

If the screen image seems to be distorted, jitter, or not to look right, try these steps:

1. Make sure the video standard in your country matches the setting in the GV-Hot Swap DVR V5. Refer to *3.14.2 Configuring the GV-Hot Swap DVR V5 for PAL after Recovery*.
2. Make sure the camera and its cable are not damaged or frayed. Try to replace a camera or camera cable to see if this fixes the problem.

How can I find more help?

1. Visit our website at http://www.geovision.com.tw/english/4_1.asp
2. Write us at dvrsystem@geovision.com.tw

Specifications

GV-Hot Swap DVR System V5

System

CPU		2nd Generation Intel® Core™ i7 Processor
RAM		4 GB Dual Channels
Drive Bay		20 / 8 / 4 bays
OS		64-bit Windows Embedded Standard 7
VGA		Onboard VGA, 2 Monitors supported using DB-15 VGA Monitor Output, DVI-D Output (DVI-D signal Only), or HDMI Output
DirectX		9.0c
DVD (±) RW	5.25”	24X (8 / 4-Bay models)
	Slim	8X (20-Bay models)
Fan	12 cm (4 3/4")	3 (20-Bay models)
	8 cm (3 1/8")	2 (20 / 8 / 4-Bay models)
Power		1000 W, 90-264 V, 47-63 Hz (20-Bay models)
		510 W, 100-240 V, 60-50 Hz (8 / 4-Bay models)

Video (GV-4016H V5 / GV-4008H V5 / GV-1480H V5 / GV-1240H V5 / GV-1120H V5 / GV-800H V5)

Model		GV-4016H V5	GV-4008H V5	GV-1480H V5 / GV-1240H V5 / GV-1120H V5	GV-800H V5
Video Standard		NTSC, PAL			
Video Input		16 channels	8 channels	16 / 32 channels	
Input Level		1.0 Vp-p (± 10%) composite, 75 Ω			
TV Output		N/A		1.0 Vp-p composite	N/A
Video Loop Output (Optional)		16 / 32 channels			N/A
Compression		HW: H264		Geo MPEG4 Geo H264	
		S/W: Geo MPEG4 / Geo H264			
Display Rate (Max)	NTSC	480 FPS	240 FPS	480 / 960 FPS	120 / 240 FPS
	PAL	400 FPS	200 FPS	400 / 800 FPS	100 / 200 FPS
Display Resolution	NTSC	704 x 480 / 704 x 480 De-interlace		320 x 240 / 352 x 240 640 x 480 / 640 x 480 De-interlace / 704 x 480 / 704 x 480 De-interlace	
	PAL	704 x 576 / 704 x 576 De-interlace		320 x 240 / 352 x 288 640 x 480 / 640 x 480 De-interlace / 704 x 576 / 704 x 576 De-interlace	
Camera Name		Max. 32 characters			
Screen Split Control		1x1 / 2x2 / 1+5 / 1+7 / 3x3 / 2+8 / 1+12 / 1+16 / 4x4 / 5x5 / 6x6			
Screen Rotate Control		1 ~ 10 sec.			
Image Control		Contrast / Brightness / Saturation / Hue			

Audio (GV-4016H V5 / GV-4008H V5 / GV-1480H V5 / GV-1240H V5 / GV-1120H V5 / GV-800H V5)

Model	GV-4016H V5	GV-4008H V5	GV-1480H V5 / GV-1240H V5 / GV-1120H V5	GV-800H V5
Audio Input	16 channels	8 channels	16 / 32 channels	
Input Level	0.5 ~ 1 Vp-p composite			
Compression	AAC (16 kHz / 16 bit)			

Recording (GV-4016H V5 / GV-4008H V5 / GV-1480H V5 / GV-1240H V5 / GV-1120H V5 / GV-800H V5)

Model			GV-4016H V5	GV-4008H V5	GV-1480H V5	GV-1240H V5	GV-1120H V5	GV-800H V5
Recording Frame	NTSC		H/W: 480 (D1)	H/W: 240 (D1)	S/W: 480 / 960 (CIF)	S/W: 240/ 480 (CIF)	S/W: 120 / 240 (CIF)	S/W: 120 / 240 (CIF)
	PAL		H/W: 400 (D1)	H/W: 200 (D1)	S/W: 400 / 800 (CIF)	S/W: 200 / 400 (CIF)	S/W: 100 / 200 (CIF)	S/W: 100 / 200 (CIF)
Image Compression Dimensions	NTSC	HW	704 x 480 704 x 480 De-interlace		320 x 240 / 352 x 240 640 x 480 / 640 x 480 De-interlace / 704 x 480 / 704 x 480 De-interlace			
		SW	352 x 240, 704 x 480 704 x 480 De-interlace					
	PAL	HW	704 x 576 704 x 576 De-interlace		320 x 240 / 352 x 288 640 x 480 / 640 x 480 De-interlace / 704 x 576 / 704 x 576 De-interlace			
		SW	352 x 288, 704 x 576 704 x 576 De-interlace					
Recording Mode	Round the Clock / Motion Detection / Sensor Detection / Pre & Post Recording / Schedule Recording							
Schedule	96 groups per day by 15 min.							
Instant Playback	10 sec. / 30 sec. / 1 min. / 5 min.							
Pre Recording	1~ 90 sec. (1 FPS)							
Watermark	Support							

Video and Audio (GV-NVRH V5)

Model	GV-NVR (GV)	GV-NVR (3rd Party)
Video Input	32 channels	1, 2, 4, 6, 8, 10, 12, 16, 18, 20, 22, 24, 26, 28, 30, 32 channels
Audio Input	32 channels	1, 2, 4, 6, 8, 10, 12, 16, 18, 20, 22, 24, 26, 28, 30, 32 channels

Hard Disk Requirements

The total of recording frame rates that you can assign to a single hard disk is listed as below:

- Analog Cameras / Software Compression

Video resolution	MPEG4	
	NTSC	PAL
CIF	480 fps	400 fps
VGA/D1	240 fps	200 fps
Turbo VGA	416 fps	400 fps
Turbo D1	352 fps	320 fps

- Analog Cameras / Hardware Compression

Video resolution	H.264	
	NTSC	PAL
D1	240 fps	200 fps

- IP Cameras

Video Resolution	MJPEG		H.264		MPEG4	
	Frame Rate	Bit Rate	Frame Rate	Bit Rate	Frame Rate	Bit Rate
2560x1920 (5M)	30 fps	102.26 Mbit/s	240 fps	21.24 Mbit/s		
2560x1600 (4M)	60 fps	73.49 Mbit/s	240 fps	15.28 Mbit/s		
2048x1536 (3M)	60 fps	64.73 Mbit/s	480 fps	10.52 Mbit/s		
1600x1200 (2M)	120 fps	41.16 Mbit/s	480 fps	9.16 Mbit/s		
1280x960 (1.3M)	200 fps	30.04 Mbit/s	480 fps	5.77 Mbit/s	480 fps	6.30 Mbit/s
640x480 (VGA)	480 fps	11.42 Mbit/s	640 fps	2.54 Mbit/s	640 fps	3.27 Mbit/s
320x240 (CIF)	480 fps	5.16 Mbit/s	640 fps	0.75 Mbit/s	640 fps	1.03 Mbit/s

Note: The above data was determined using the bit rate listed above and hard disks with average R/W speed above 80 MB/s.

Searching and Playback

Search Method	Date / Time
Date / Time / Event Search	Selectable on the tree list and calendar
Log Search	Through the log data to find the video event / time
Backup Type	DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW

Remote Client Software

Monitoring Environment	WebCam / Twin Server / CenterV2 / VSM / Control Center / Remote Playback Server / Remote View / IP Multicast / GView V2 for PDA / MSView V2 for Windows Mobile 5.0 / MSView V3 for Windows Mobile 6.0 / SSView V3 for Nokia S60 2nd and 3rd / Remote View for BlackBerry Mobile / 3G Mobile Phone / iView for iPhone and iPod Touch / iView HD for iPad / AView for Android Smartphone
WebCam Live View	Max. 32 channels transmission (Max. 200 channels accessible)
Remote Search	WebCam's Remote Playback / Remote Playback Server

System Monitoring and Recovery

Power Restoration	Power restored after AC power loss
Monitoring	Two independent Watchdogs (Hardware Watchdog + Software Watchdog)
Recovery DVD	Automatic system rebuild

Alarm

Sensor Input	Standard	4 inputs
	GV-IO 12-In Card (Optional)	12 inputs
	GV-IO USB Box (Optional)	8 ~ 72 inputs (with GV-System version 8.1.2.0 or earlier)
		16 ~ 144 inputs (with GV-System version 8.2.0.0 or later)
	GV-IO Box 16 Ports (Optional)	16 inputs
	GV-IO Box 8 Ports (Optional)	8 inputs
	GV-IO Box 4 Ports (Optional)	4 inputs
Alarm Output	Standard	4 outputs
	GV-IO 12-Out Card (Optional)	12 outputs
	GV-IO USB Box (Optional)	16 ~ 144 outputs (with GV-System of version V8.1.2.0 later)
	GV-IO Box 16 Ports (Optional)	16 inputs
	GV-IO Box 8 Ports (Optional)	8 inputs
	GV-IO Box 4 Ports (Optional)	4 inputs
Motion Detection	32 channels	

Peripheral Devices (GV-4016H V5 / GV-4008H V5 / GV-1480H V5 / GV-1240H V5 / GV-1120H V5 / GV-800H V5)

Video Input	BNC 8 / 16 / 32 ports
Video Loop Output (Optional)	BNC 16 / 32 ports
Audio Input	RCA 8 / 16 / 32 ports
Audio Microphone In	Mini stereo jack
Audio Output	Mini stereo jack
TV Output	RCA
RS±485 for PTZ Control	2-pin terminal

Note:

1. RCA TV output is only available in GV-1480H / 1240H / 1120H V5 and 8 / 4-bay GV-4016H / 4008H V5.
2. RS±485 for PTZ Control is only functional for GV-1480H / 1240H / 1120H V5 and GV-800H V5.

Networking (GV-NVRH V5)

Type	TCP/ IP, LAN, WAN, Internet, Modem Dial-up, Modem-to-Modem, ISDN

Environment

Operating Temp.	0 ~ 45 °C / 32 ~ 113 °F
Humidity	0 ~ 80% RH (non-condensing)

Physical

Model		GV-4016H V5	GV-4008H V5	GV-1480H V5 / GV-1240H V5 / GV-1120H V5 / GV-800H V5	GV-NVRH V5
Color		Black (20-bay models) / Silver (8 / 4-bay models)			
Dimensions (W x H x D)	20 Bays (4U)	483 x 178 x 660.4 mm / 19.01 x 7 x 26 in			
	8 / 4 Bays (4U)	483 x 178 x 528 mm / 19 x 7 x 21 in			
Net Weight	20 Bays	24 kg / 52.8 lb (± 1 kg / 2.20 lb)			
	8 Bays	19.9 kg / 43.87 lb	19.7 kg / 43.43 lb	19.6 kg / 43.21 lb	19.5 kg / 42.99 lb
	4 Bays	18.1 kg / 39.90 lb	17.9 kg / 39.46 lb	17.8 kg / 39.24 lb	17.7 kg / 39.02 lb

Language

Type	English / Czech / Danish / French / German / Hebrew / Hungarian / Italian / Japanese / Polish / Portuguese (Brazil) / Russian / Serbian / Spanish / Simplified Chinese / Traditional Chinese

GV-Hot Swap Recording Server System

System

CPU		2nd Generation Intel® Core™ i7 Processor
RAM		8 GB Dual Channels
Drive Bay		20 bays
Operating System		64-bit Windows Embedded Standard 7
Backup Type		DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW
Recovery DVD		Automatic system rebuild
Connector	Ethernet	RJ-45, 10 / 100 / 1000 Mbps x 3
	VGA Output	DB-15 VGA Monitor Output, DVI-D Output (DVI-D signal Only), or HDMI Output
	USB 2.0	Front: 2 ports, Rear : 6 ports
	USB 3.0	Rear: 2 ports

Networking

Type	TCP/ IP, LAN, WAN, Internet, Modem Dial-up, Modem-to-Modem, ISDN

Environment

Operating Temp.	0 ~ 45 °C / 32 ~ 113 °F
Humidity	0 ~ 80% RH (non-condensing)

Physical

Color	Black
Dimensions (W x H x D)	483 x 178 x 660.4 (mm) / 19 x 7 x 26 (in)
Weight	23.5 kg / 51.8 lb (± 1 kg / 2.20 lb)

Software Specifications

Number of IP Video Device Connections	128 channels
Number of Remote Client Connections	300 channels
Active Connections	Yes
Passive Connections	Yes (only for GV IP devices)
3rd Party IP Cameras Support	Yes
Live Viewing	Single live view, multi-channel live view
Recording	Yes (up to 128 channels)
Protocol	HTTP, HTTPS, TCP, UDP, SMTP, UPnP, DynDNS, RTSP, PSIA, ONVIF
E-Mail Notification	Yes (for Active connection lost, passive connection lost, USB protection key removed, recycling of recorded video, start keep days operation, motion detection, disk full, disk error, I/O trigger)
SMS Notification	No
2-Way Audio	Yes (only for GV-IP devices through active connection)
GPS support	Yes (only for GV-IP cameras)
Number of Accounts	Up to 1000 accounts
Mobile Phone Support	No
Bandwidth Control	No
IE Live View	Yes (up to 36 channels)
IE Event Query	Yes
IE I/O Control	No
Language	Czech / Danish / English / French / German / Hebrew / Hungarian / Italian / Japanese / Polish / Portuguese / Russian / Serbian / Simplified Chinese / Spanish / Traditional Chinese

Supported IP Devices

This list provides the supported IP device brands. For detailed information on the supported IP devices, refer to Supported IP Camera List on GeoVision's Website:
http://www.geovision.com.tw/english/4_21.asp

GeoVision
ACTi
Arecont Vision
AXIS
Bosch
Canon
CNB
D-Link
Etrovision
Hikvision
HUNT
IQinVision
JVC
MOBOTIX
Panasonic
Pelco
Samsung
Sanyo
SONY
UDP
Verint
VIVOTEK

Warranty Policy

Warranty Coverage

GeoVision, Inc. warrants **GV-Hot Swap DVR System V5**, **GV-IR Remote Control**, and **GV-Keyboard** against defects in materials and workmanship for a period of TWO (2) years from the date of purchase.

Other packaged accessories and software (including but not limited to System Software) are excluded.

If a defect where due to causes attributable to GeoVision arises and a valid claim is received by GeoVision within the Limited Warranty Period, at its option, GeoVision will (1) repair the product at no charge, using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product.

GeoVision warrants replacement parts or repairs for thirty (30) days from the date of GeoVision shipment or for the remainder of the Limited Warranty Period, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes GeoVision's property.

Exclusions and Limitations

The Customer shall have no coverage or benefits under this Limited Warranty if any of the following conditions are applicable:

1. The product has been subjected to abnormal use, failure to follow the instructions prescribed in User's Manuals, improper storage, improper packaging, improper maintenance, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alternation, improper hardware/software installations, or other acts due to causes not attributable to GeoVision, including damage caused by shipping.
2. The product was not purchased from an authorized distributor or agent.
3. The product has been damaged from exposure to rain, flood, storm, moisture, dampness, weather conditions, an Act of God, force majeure, improper use of any electrical source, or the connection to other products not recommended for interconnection by GeoVision.
4. Defects or damage caused due to virus attack.
5. The product bar code on the system case has been removed, defaced or altered.
6. The system case has been opened.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. THE WARRANTY IS LIMITED TO REPAIR OR EXCHANGE THE PRODUCT AT GEOVISION'S OPTION. OTHER EXPRESSED OR IMPLIED WARRANTIES FOR THIS PRODUCT, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES EXPRESSED OR IMPLIED WILL APPLY AFTER THIS PERIOD. GEOVISION SHALL NOT BE LIABLE FOR SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL DAMAGES. GEOVISION SHALL NOT BE LIABLE FOR LOST PROFITS, LOST OF DATA, PROGRAMS OR OTHER INFORMATION, DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS OF THIS PRODUCT, OR DAMAGES BASED UPON INCONVENIENCE, LOSS OF PRODUCT USE, LOSS OF TIME, COMMERCIAL USE, INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY, INCLUDING DAMAGES TO PROPERTY, AND TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY, OR OTHERWISE, EVEN IF GEOVISION HAS BEEN ADVISED OF THE POSSIBILITIES OF SUCH DAMAGES.

Warranty Requirements

To validate your purchase, you shall complete the online Product Registration **within 30 days from the date of purchase** at http://www.geovision.com.tw/english/4_6.asp. Or click **GeoVision Online Registration** in My Favorite for a direct link.

If you fail to complete the Product Registration, the warranty period will start **from the date of shipment.**

Before you return the product

Some problems you experience may be related to software or the operating system. It is important to investigate other sources of assistance first. Before returning the product, try the following:

1. Review troubleshooting sections in the documentation for software and peripheral devices.
2. Try rebuilding the operating system and GV-System by using the Recovery DVD.
3. Consult your dealer. They are your best sources for current information and support. Or you can call or email GeoVision offshore offices for assistance.

   When you call or e-mail, please inform us the following:

- Model name
- Bar Code
- Recovery DVD version
- Details of the defect or problem
- Attempted solutions
- Your contact information
- Reseller's contact information

4. If you find it is the software problem, please check our website or your dealer for software updates.

Obtaining Warranty Service

If you are still unable to solve the problem and suspect that it is hardware related, follow these:

1. Send an e-mail to GeoVision to start Return Merchandise Authorization (RMA) process.

   E-Mail: sales@geovision.com.tw or dvrsystem@geovision.com.tw
2. Securely pack the product in its original carton using the original packing material, or in equivalent packaging.
3. The product shall be returned to **GeoVision, Taiwan** at your expense for shipping and insurance costs.

BEFORE YOU DELIVER YOUR GV-HOT SWAP DVR SYSTEM V5 FOR WARRANTY SERVICE, IT IS YOUR RESPONSIBILITY TO BACK UP YOUR DATA. YOU WILL BE RESPONSIBLE FOR REINSTALLING ALL DATA, SETTINGS AND PASSWORDS. DATA RECOVERY IS NOT INCLUDED IN THE WARRANTY SERVICE AND GEOVISION IS NOT RESPONSIBLE FOR DATA THAT MAY BE LOST OR DAMAGED DURING TRANSIT OR A REPAIR.

Warranty Form

Thank you for purchasing the GV-Hot Swap DVR System V5. To help us validate your purchase and better serve you in the future, please go to http://www.geovision.com.tw/english/4_6.asp or click **GeoVision Online Registration** in My Favorite for a direct link to register online **within 30 days from the date of purchase**. Please keep this copy for your records.

Name: First (given)	**Surname (family name)**
Company Name (only if the product is owned by company):	
Mailing Address:	
City/Town:	**Province/State:**
Country:	**Postal Code:**
Telephone: (O)	**(H)**
Fax:	
E-Mail:	
Date of Purchase: (e.g. 16-APR-2008)	

Product:

Please check the model and its items you purchased.

Model

- ☐ **GV – 800H V5**
- ☐ **GV – 1120H V5**
- ☐ **GV – 1240H V5**
- ☐ **GV – 1480H V5**
- ☐ **GV – 4008H V5**
- ☐ **GV – 4016H V5**
- ☐ **GV – NVRH V5**

NVR

- ☐ **4 Channels**
- ☐ **8 Channels**
- ☐ **16 Channels**
- ☐ **20 Channels**
- ☐ **32 Channels**

Bay Option

- ☐ **20 Bays**
- ☐ **8 Bays**
- ☐ **4 Bays**

☐ _____
Bar Code:
Shipment Date:

GeoVision, Inc.
9F, No. 246, Sec. 1, Neihu Rd.,
Neihu District, Taipei, Taiwan
Tel: +886-2-8797-8377
Fax: +886-2-8797-8335
Email: sales@geovision.com.tw
dvrsystem@geovision.com.tw
http://www.geovision.com.tw